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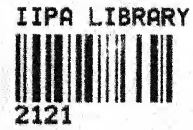
THE SOVIET PRICE SYSTEM

By

NAUM JASNY



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To
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CHAPTER I

INTRODUCTION

Much remains to be done in the line of comprehensive analysis of the Soviet economy. Some students still seem to be satisfied merely to repeat Soviet estimates, though of late one more commonly encounters the qualification that the principal Soviet indexes, namely those of agricultural and industrial output and of national income, have or may have an upward bias. Such serious analyses as are attempted mostly resemble steering in the dark without instruments.[1] The instrument which could help but has been little used is familiarity with Soviet prices.[2]

Although even a comprehensive description of the Soviet price system, to say nothing of analysis of the prices themselves, is lacking,[3] it is not intended here to fill the gap fully. At least a relatively brief discussion of the Soviet price system seems the more indispensable because the system is unique, nothing even remotely similar having ever been observed in the world. Analogies from other systems, consciously and unconsciously resorted to by every analyst, are inevitably misleading.

The Soviet price system acquired its unique nature only during the Plan era, beginning about 1930 or shortly thereafter. Earlier, it was basically the same as in other industrially backward countries, but with the features of the price pattern typical of such countries even more pronounced than usual. While Colin Clark[4]

[1] A good example is Abram Bergson's comprehensive study, "Soviet National Income and Product in 1937. Part I. National Economic Accounts in Current Rubles," and "Part II. Ruble Prices and the Valuation Problem," *Quarterly Journal of Economics*, May and August 1950, LXIV, 208–41 and 408–41.

Strange as it may seem, attempts are even made to analyze changes in profits, losses, and the subsidies of industry and transport from 1948 to 1949 without considering that the prices of all producers' goods, net of turnover tax, more than doubled and railway rates almost doubled, effective January 1, 1949.

[2] For an illustration of the danger in writing of the Soviet price system without familiarity with the prices themselves, see M. C. Kaser, "Soviet Planning and the Price Mechanism," *Economic Journal* (London), March 1950, LX, 81–91.

[3] The writer has in mind living costs, prices of producers' goods, and railway rates. Prices of consumers' goods have repeatedly been analyzed.

[4] Colin Clark, *A Critique of Russian Statistics* (London, 1939); "Russian Income and Production Statistics," *Review of Economic Statistics*, November 1947, XXIX, 215–17; and others.

and Julius Wyler[5] made comparisons of the pre-Plan price pattern with those of other countries and must therefore have realized their character, they did not publish the price material. This character is, therefore, at best inferred; all its features are certainly not known and not taken into consideration in current analysis of the Soviet economy.

Before the Revolution, the prices of industrial goods and construction costs were very high in Russia; the prices of farm products were correspondingly low. The almost complete standstill of industry in the wake of World War I and the Civil War brought about a further considerable worsening of the price relationships to the disadvantage of farm producers in 1922–23 and subsequent years. The price relationships remained more unfavorable for agriculture than before the war, even after all the losses of World War I had been made up and both agricultural and industrial output had reached or exceeded the prewar level—about 1926–27. The situation was indeed such that, with state industry operating at high costs and state and private trade involving big margins, there seemed to be no immediate prospect that price relationships would return to the prewar pattern.

While a comparison of the price pattern of a predominantly agricultural country like the USSR in the pre-Plan era with the price pattern of an industrial country like the United States can be made only with certain qualifications, the vast divergence between these two price patterns cannot be overemphasized in an analysis published in the United States, where the reader naturally visualizes a price pattern similar to, or at least not fundamentally different from, the one prevailing in his own country.

The last pre-Plan year was 1927–28 (October–September), later shifted to the calendar year 1928. Prices in 1927–28, however, were near enough to those of 1926–27 so that the use of 1926–27 prices here as representing the pre-Plan era is warranted as well as necessary, because the most important Soviet economic indexes were based upon them during most of the Plan era, and may still be so based.

An analysis of the 1926–27 price pattern, including a comparison of these prices with those in the United States, forms

[5] Julius Wyler, "The National Income of Soviet Russia," *Social Research*, December 1946, XIII, 501–18, especially pp. 506–07; but his few remarks almost inevitably passed unnoticed.

chapter ii of a forthcoming publication.[6] Here it suffices to mention that in 1926–27 the farm prices in the USSR were about 30 percent below those in the United States. The prices of industrial products processed from farm products, which naturally profited from the low farm prices, were about the same in both countries. The balance of the industrial products cost about two-thirds more in the Soviet Union. The cost of industrial construction was at least double that in the United States.[7]

Such a price pattern had wide implications. With living costs kept down, the low farm prices favored the industrialization drive which has characterized the Plan era. The drawback that those prices were undermining the purchasing power of the farm population for industrial goods was irrelevant during this era, because most of the additional output of industrial products was not intended for private consumption in any event. The high construction costs, on the other hand, were a great handicap to the drive. But whatever the effect of the 1926–27 price pattern on *actual* developments, it was extremely favorable for demonstrating Soviet attainments during the Plan era statistically, for the greatest expansion occurred in the output of those very items (producers' goods, factories, houses, etc.) which were relatively the most expensive in 1926–27 prices.

The price pattern of 1926–27 or 1927–28 soon became history. Indeed, the change was fundamental. Industrial raw materials, the means of production produced from them, and construction, the extreme dearness of which was a major feature of the 1926–27 price pattern, had become cheaper in nominal prices relative to living costs and especially relative to the prices of consumers' goods than anywhere in the world and at any time in recent history.

The more the pre-Plan price pattern changed, the less favorable the new price pattern became for demonstrating achievement. Thus it happened that, although the economic pattern of the country had fundamentally changed and the 1926–27 price pattern had been outmoded for a long time, the Soviets stuck to the prices of that year for use in the most important economic indexes.

[6] Naum Jasny, *Soviet Prices of Producers' Goods* (Food Research Institute, Stanford, 1951).

[7] The comparison is based on the then existing parity of one ruble being equal to 51.5 cents, a parity which was real and not nominal as it became soon afterwards.

To make the economic achievements appear even more favorable than they would have been if computed at 1926–27 prices, the prices in which the indexes were computed were permitted, or deliberately made, to depart from the real 1926–27 price levels, the departure with minor exceptions, if any, always being in the upward direction. To conceal the real nature of these advancing prices, they were baptized "unchangeable 1926–27 prices." Soon the "unchangeable 1926–27 prices" used in preparation of the indexes lost most of their connection with the real 1926–27 prices and were transformed into a sort of phantom. This had the effect of making the attainments in industrialization and in national income rise, phantomlike, much more than they did even in the very favorable 1926–27 price pattern. Also, goals of the various plans, which were actually missed, appeared fulfilled and even surpassed, thanks to this device.

In addition to the "unchangeable 1926–27 prices," a number of others have been used in the USSR for computing indexes—for example, 1932 prices for indexes of output of industrial co-operatives and of the goods available for sale in the "broad market," or 1933 prices (and others) for the value of basic funds.[8] A function to some extent similar was served by 1933 Plan prices, used for various purposes in the 2d Plan, and by the prices and norms of December 1936 and of 1945, used in planning capital investments. The 1932 prices used for the indexes of output of industrial co-operatives resembled the "unchangeable 1926–27 prices" in having a strong and definite upward bias. The other price patterns used for indexes were likewise more or less defective for this purpose, either from the outset or with the passage of time. The following analysis has to do with real prices, mostly referred to in the USSR as "the prices of respective years," but here designated "current prices," and the phantom 1926–27 prices, referred to in the USSR as "unchangeable 1926–27 prices."

According to Soviet theory, which, like everything else, is official, the Soviet price system is a "system of fixed planned prices."[9] The prices are supposed to be fixed "in accordance

8 Basic funds are fixed investments for productive and nonproductive purposes.

9 A. Gordin, "Price and Price Forming in the USSR," *Bolshevik* (Moscow), 1951, No. 7, p. 62.

with the value of the goods."[10] The values correspond to the imputed "fresh" and crystallized labor plus profit. When necessary "the Socialist State . . . effects a planned departure of prices from value."[11] This is "the law of value in transformed form . . . discovered by the coryphaeus of science, comrade Stalin."[12] No space is devoted in the present study to the Soviet theory of value and price, except for a discussion, in chapter iv, of the theory of turnover tax as a form of profit. The official theory can be well judged by the results, by the deeds. The more technical problems, as for example the shift from establishing the prices f.o.b. factory to f.o.b. destination, of late increasingly applied to producers' goods, are also not covered. The writer is primarily interested in what the prices really are, and in their broad economic implications. Techniques are discussed mainly to the extent needed to clarify the prices and their implications.

PRICES AND PLANNING

The Soviet economy is a planned economy, and hence every success or failure in the economic field goes to the credit or discredit of the planning. Whether it is specifically pointed out or not, the quality of Soviet planning is behind practically everything in this study. It is true that not everything found in Soviet plans was included with real enthusiasm. Such phenomena as the kolkhoz markets[13] or part of the multiplicity of prices for the same goods had first developed in violation of the plans and were later included in them only because it seemed impossible to attain or enforce something more desirable. To conceal the failure, such an ugly institution as the kolkhoz markets was even proclaimed a specific form of socialist trade. While the difference between the really desired and not really desired must be kept in mind, even the originally undesired institutions and phenomena are part of present plans. Soviet planning is so involved and the subject so vast that the writer is devoting to it a separate study which is now in an advanced stage of preparation.[14] To discuss here, in detail,

10 *Ibid.*, p. 63. 11 *Ibid.*, p. 64.

12 V. Dyachenko, "Khozraschet as the Socialist Method of Economic Activities," *Questions of Economics* (Moscow), 1951, No. 2, p. 9.

13 Markets where the collective farms (kolkhozy), their members (kolkhozniki), and individual peasants sell their own products direct to consumers at free prices.

14 In case something should prevent completion of that study, I would like to point out that it should be dedicated to the memory of *Vladimir Gustavovich Groman*, the great Russian

the relation between planning and prices would thus involve too much duplication, but a few summarizing statements are indispensable.

It is not an exaggeration to say that the Soviet price system was in a chaotic state throughout the whole Plan era. So far as the price level as a whole is concerned, the Plan era was characterized by a strong 19-year inflation; when the inflation was finally stopped, a sharp depression rather than price stability set in. All this occurred in violation of the plans.

No better proof is needed that Soviet planning does not function well with reference to the planning of retail prices of consumers' goods than the hunger for those goods, a phenomenon which has become almost inseparable from the Soviet economy. Obviously the prices are not so adjusted that supply equals demand. For years the co-operatives were permitted to sell at higher prices than the state received, and this is still the case. Thus again: the state is not covering the demand at prices set by it. Actually, the phenomenon is widespread that different state organizations sell at different prices, and this further attests the inability to plan output and prices correctly.

With the huge turnover taxes imposed on consumers' goods, it should be relatively easy—by modifying the tax—to set the wholesale prices of these goods minus tax so that the enterprises producing them would cover costs and return a moderate profit, and thus operate in an orderly fashion. Yet complaints appear time and again in authoritative sources that this is not the case—that some consumers' goods return excessive profits, while others are produced at a loss. Aside from other disadvantages (see below), the outcome of this is that goals for output of the profitable goods are exceeded, while the output of unprofitable goods falls short.

Until January 1, 1949, prices of producers' goods had been below production costs during most of the Plan era, and certain producers' goods were produced at a loss all the time. Nor were

planner of the 'twenties, and the leader of those who wanted planning in the European style, not implemented by dictatorship as is the Soviet planning of today. The fact that different types of planning were effected in the USSR seems not to be realized abroad. It remains unknown that, while present-day Soviet planning may primarily serve as an example of how planning should not be done, the attempts at planning in the 'twenties, however uncertain they may have been, were in the only direction acceptable to those who want planning compatible with liberty.

the losses trifling. For long periods the subsidies on some goods ranged from 50 to over 100 percent of the wholesale prices of the goods involved. Disregard of cost and all kinds of waste are among the principal weaknesses of the Soviet system. The disadvantages are well recognized. Measures to eliminate waste, "khozraschet" (operation with consideration of costs) and "control by the ruble," are urged unceasingly in the USSR. It is clear to those in power that prices covering costs are indispensable to the success of these efforts. Twice the government solemnly announced its definite decision to abolish the subsidizing—first in 1936 and again in 1948. But in the prewar years the advancing inflation countered the government's intentions, while in 1950 a renewed desire to cheapen investments led to the setting of wholesale prices below cost for such important goods as machinery and common steel.

Not only was the general level of all wholesale prices of producers' goods set incorrectly, but apparently there never was a correct tie-in between the prices of competing goods—competing fuels, for example—or between the prices of raw materials and finished products. There was, indeed, only one opportunity for such a tie-in during the whole Plan era, namely in 1948, when the prices of practically all producers' goods were revised simultaneously, effective January 1, 1949 (only those prices apparently remained unchanged where there were specific reasons). But it is doubtful that the needed tie-ins were achieved, and if so, they were crudely disrupted in the very next year.

Lack of tie-ins, it is true, may be justified under specific conditions, and it is indeed the advantage of state ownership of means of production, prevailing in the USSR, that the consequences of the justified lack of tie-ins can more easily be smoothed out than in a private economy. But these departures must be specific cases, there must be really good reasons for them, the departures must be within the limits dictated by those reasons, and the artificially established price relationships must be kept only so long as the reasons continue to be present. All too frequently those requirements are not met in the USSR.

In 1933, the price of kerosene for technical purposes, f.o.b. destination, was raised about 10-fold, to a level about 45-fold that of good Donbass boiler coal, f.o.b. mine. In 1949, the same

kerosene cost not quite six times as much as coal. There is no justification—there cannot even be any explanation—for such shifting around. The varying rates between kerosene and coal prices are an extreme case, but the number of unjustified large shifts in price and rate relationships is almost infinite. In 1949, important types of rolled steel cost about 5–6 times as much as coal; in the second half of 1950, the relation was only about three to one.

Extreme arbitrariness, the club law of administrators who know Stalin's speeches by heart but are less familiar with economic planning, appears in the Soviet prices with the greatest clarity. The greatly excessive boost of almost all prices of producers' goods and of freight rates in 1949, and the removal in 1950 of a large part of the increase in two actions, separated by six months, is nothing but blunder. It was a great blunder to raise machinery prices 30–35 percent in one year (1949) and then to eliminate the entire increase, and more, the next year (1950); or to raise railway freight rates on short distances much less than on long distances (rate revision of 1939) and to do exactly the opposite in the next revision (1949). The established regional cost relationships are unnecessarily severed by such changes.

A wholesale market does not exist in the USSR. It has been almost completely replaced by planning and distributing in physical terms, by *allocation*. The outputs of the various ministries (in physical terms) are allocated among other ministries. The ministries reallocate to their major subdivisions, these reallocate further, and so on until the particular good is ultimately allocated to the enterprise which will actually receive it. State organizations have to accept the goods assigned to them even if they have no need for them. They may have to do without the most essential goods and services (repairs or spare parts, for example) if, for one reason or another, these were not assigned to them. That the ultimate receivers pay the fixed price for the goods received by them is merely secondary. It does not impart to the transactions the character of a market.

Under Soviet conditions, the enterprises often sustain substantial losses when trying to get rid of delivered but unneeded goods; reselling of many important goods, even to state organizations, is prohibited. For those who do not get the needed goods, the alternatives to doing without them entirely are pro-

ducing them themselves without regard to cost or resorting to irregular and simply illegal measures such as pushing, bartering, and even bribing. Gregory Grossman of Harvard deserves credit for stressing that while these illegal or, at least, disfavored activities, brought about by faulty planning, disrupt the planning, they also *help to overcome some of its worst abuses.*

A further flagrant shortcoming of the Soviet price system is multiplicity of prices. In 1948, a year without rationing, the producer received in the kolkhoz market perhaps 40–50 times as much for his wheat as the government paid him on obligatory deliveries. The official rates for transportation with horses are about three times as high as those by truck. Occupational clothing costs perhaps half as much as similar civilian clothing. The price difference is even greater between building materials sold to government organizations and those sold to private persons. All this is an important source of theft, bribe, and graft. A special word was even coined for these crimes in the USSR—*blat.* The pushing, bartering, and other machinations of state organizations to acquire needed goods for their lawful operations also are *blat* in Soviet terminology.

The situation was of course considerably aggravated by the fact that for a long time Soviet planning was largely based on values and indexes in the phantom "unchangeable 1926–27 prices," and even their compilers may not have known what they represented. The worst thing was that some important items were planned in these prices, while some others were in current prices. More than two price patterns were actually used in one plan. This topic is discussed briefly in chapter vi.

The Soviet price system and Soviet planning in general, as they have functioned throughout the Plan era, failed to disrupt the whole economy and even permitted it to thrive considerably only because planning in the USSR is implemented by two powerful forces—state ownership of means of production and, last but not least, dictatorship.

The hunger for goods and other ugly phenomena of the Soviet retail market of consumers' goods would not be tolerated very long in a free country outside of wartime. It is feasible as a permanent institution only in a highly dictatorial state, where the consumer has only one right, which is also an obligation: to cheer

vociferously the latest decision of the dictatorship and the leaders at the helm.

Advocates of planning outside the USSR are unlikely to visualize the realization of their ideal as being practically without a market of producers' goods, and having in its place only a system of allocation—that war emergency measure which has rarely functioned to full satisfaction. But while the replacing of a market by allocation is unthinkable in a private economy, it is merely a wasteful procedure in a state-operated economy. Dictatorship insures that the population bears its unfavorable consequences in addition to consequences of the huge new investments, especially those needed for keeping the USSR armed to the teeth.

Certain enthusiasts for planning, and specifically for Soviet planning, in this and other non-Soviet countries, seem not to realize two things: that good planning in the USSR might spell peril to the world, and that good planning is fortunately incompatible with dictatorship. Even fairly good functioning of the specifically *Soviet type of planning, which is much less subtle than the type that would be needed in free countries*, would be very dangerous. State ownership of means of production at once makes central planning indispensable and greatly facilitates the operation of inferior plans. Dictatorship helps to realize plans and especially to overcome the results of poor planning and the failure to reach goals. But dictatorship also makes the operation of such a subtle instrument as planning difficult. All the experience gradually accumulated in planning in the USSR is offset by the further moral disintegration of the country, and by the impossibility for those who are familiar with this experience to adapt it to Soviet life. It is a blessing that while Soviet conditions greatly facilitate planning, they make possible only very poor planning.

CHAPTER II

CURRENT PRICES: WAGES, AND PRODUCERS' AND CONSUMERS' PRICES

INFLATION AND DEFLATION

The Plan era has been characterized by a practically uninterrupted inflation, which in combined intensity and duration has few equals. Until a short time ago, it even seemed correct to speak of inflation as a part of the Soviet price system. Although each Five-Year Plan scheduled a more or less substantial deflation, no real effort was made to accomplish this. Indeed, only during the 1st Plan Period was a serious attempt made even to *hold* to the existing price levels. The price levels visualized by the 3d Plan, for example, were shattered at the outset by an all-around boost in the prices of industrial raw materials. While the Plan was not approved before the spring of 1939, the upward price revisions were started on February 1, 1939, and railway rates were raised, effective April 1, 1939. In a similar way the price provisions incorporated in the 4th Plan, approved in the spring of 1946, lost connection with reality when, a few months after approval, the prices of rationed food were nearly trebled. See the Appendix Note, however, for a greatly modified appraisal of the place of prices in the 4th Plan.

The last pre-Plan year, 1927–28, was still in the wake of deflation, which began around 1925–26. Price developments were so erratic during the early part of the Plan era that it is impossible to state definitely when the turn from deflation to inflation occurred. The prices of producers' goods continued their decline in 1928–29 and 1929–30, though at a snail's pace. The prices of consumers' goods were rising very slowly in state and co-operative trade but very strongly in private trade. Although the general price level possibly increased moderately in those two years, it may be appropriate to consider 1931 as the starting point of the great inflationary wave.

The inflation terminated with the end of 1949. The prices of consumers' goods had been declining in 1948 and 1949, but the prices of producers' goods experienced an unprecedented boost effective January 1, 1949. On January 1, 1950, a reversal also began in these. Since then the further reductions in prices of consumers' goods have been accompanied by declines of producers' goods. There were indeed two of these, one effective January 1, 1950 and another six months later. Wages have remained about stable since 1948. Assuming 1931 as the first inflation year, the great inflation wave lasted for 19 years.

It would be superfluous to look in the Soviet literature for reasons behind the inflation. Although at its height the general price level exceeded that in 1926–27 perhaps 15-fold, the phenomenon of inflation exists for the Soviets only in the despised capitalist world. The Soviets know merely advances in the value of the Soviet ruble, i.e., deflation. But the jubilant tone in which they announce such advances (deflation is certainly not a blessing) would have betrayed the real situation, even in the absence of an abundance of other evidence.

By far the most important inflationary factor was the drive to industrialize—and, later, to arm—more rapidly and strongly than conditions allowed. The rising trend of *nominal* wages was the most conspicuous manifestation of this excessive drive. Everyone was urged not only to fulfill but to overfulfill his goal. With state enterprises competing for goods and especially for labor, the goals for raising nominal wages were usually fulfilled, while the goals for increasing labor productivity—tied in with the wage goals by the plans (whose fulfillment, as a whole, depended on attainment of the labor-productivity goals)—were reached only partially or failed entirely. The outcome was rising nominal outlays on labor per given product rather than the planned declines. The rising wages in the face of shortfalls of goals for labor productivity made inflation inevitable. During the 1st Plan Period, with the failure of labor-productivity and persistence in greatly expanding the share of new investment in national income, the price rise of consumers' goods had to be much stronger even than the advance in wages. Although it was done reluctantly, prices of producers' goods had also to be raised repeatedly.

In the early years of the Plan era, the effect of the principal

inflationary factor was greatly strengthened by the catastrophic fall in agricultural production. All during the era, technical defects of planning were an important contributing factor to the inflation. Lack of proper tie-ins among even directly connected factors, such as the consistently inadequate provision of planned constructions with needed materials, are certainly conducive to disturbance and inflation.

As the standard official explanation for the isolated cases of deflation the great advantages of the Soviet socialized economy were cited—the strong rise in labor productivity, the untiring care of the beloved leader for the well-being of his herd, and so forth.

The small reductions in the prices of consumers' goods in 1935 and 1937, and the large ones in 1948–51, may be accepted as a fairly adequate means of adjusting private consumption to expansion in output of consumers' goods (rising wages with stable prices of consumers' goods would probably be even better), but the cuts in the prices of producers' goods on January 1, 1950 and July 1, 1950 belong in another category. The same is true of the isolated cases of price cuts of producers' goods before the war.[1]

While the prices of producers' goods introduced on January 1, 1949 struck the writer from the start as greatly excessive, he did not dare dismiss them as representing a blunder. Since no explanation was given, it seemed remotely possible that some good reason, or at least some reason, was behind the action. The retreat which started only a year after the new prices became effective (the need for it must have been realized much earlier) stamps the 1949 price raise for what it was—a blunder. The intensification of concealment, specifically in the amount of data given in the 1950 budget as well as the great delays in announcing that budget and the January 1, 1950 price cuts, reflected concern over the disturbances caused by the excessive raises of prices of producers' goods effective January 1, 1949 and uncertainty as to the manner of dealing with those prices in the future.

With the great secrecy surrounding the latest price changes,[2] the reasons for the blunder of the 1949 price raise are impossible

[1] There were apparently only two such cases of any importance after 1930: the moderate reduction of the prices of machinery and equipment effective January 1, 1935, and a similar price reduction of railway rails in 1937.

[2] So far as this writer is aware, the price rise of 1949 was not discussed at length in any paper, journal, or book. Maizenberg's article quoted below discusses the January 1 and July 1, 1950 price cuts, lumping them together. It is the only one known to this writer.

to ascertain. The disappearance of N. A. Voznesenskii and his principal collaborators from the Gosplan (Voznesenskii was its president for many years, including those of World War II) may have something to do with it. Even moderately experienced planners are very scarce in the USSR, and these men may have been irreplaceable.

Those who actually decided on the 1949 price raise may have failed to realize the changed situation with reference to curbing competition for labor. They may have been guided by the idea that costs were rising in any event and hence that prices which might appear excessive at the time of their establishment would be reasonable a short time later. This explanation is the least condemning for the great blunder committed in setting the prices of producers' goods at a greatly excessive level—after more than 20 years of full-scale planning.

The fact that, for the first time since the Revolution, wages have recently been stabilized seems to be of great importance. Although the blunder with the 1949 raise of producers'-goods prices does not suggest perfect functioning of planning, there might have been a degree of improvement in the functioning of the specific form of planning existing in the USSR—of what is called, in the USSR, planned socialized economy, but what actually is planning of primarily state-owned enterprises *implemented by a great deal of coercion of the other sectors of the economy and of all labor.* Strengthening of this coercion, its smoother functioning, rather than improvements in planning as such, may be largely responsible for the fact that the Soviets finally succeeded in reversing the steadily rising cost (in nominal terms) of labor per physical unit of output.

The future is of course uncertain. As usual the action of the day is proclaimed the law of the socialist economy. In the only known article on the recent changes in the prices of producers' goods, the author wrote:

> The Party and Soviet government always considered the reduction of wholesale prices in connection with the tasks of technical progress in industry, of perfection in methods of its operation, insuring the greatest regime of saving and of strengthening of economic khozraschet. The reduction of wholesale prices is that method, inherent only in the socialist state . . .[3]

[3] L. Maizenberg, "The System of Wholesale Prices and the Strengthening of Khozraschet," *Planned Economy* (Moscow), 1950, No. 6, p. 58. Khozraschet means operation with consideration of costs.

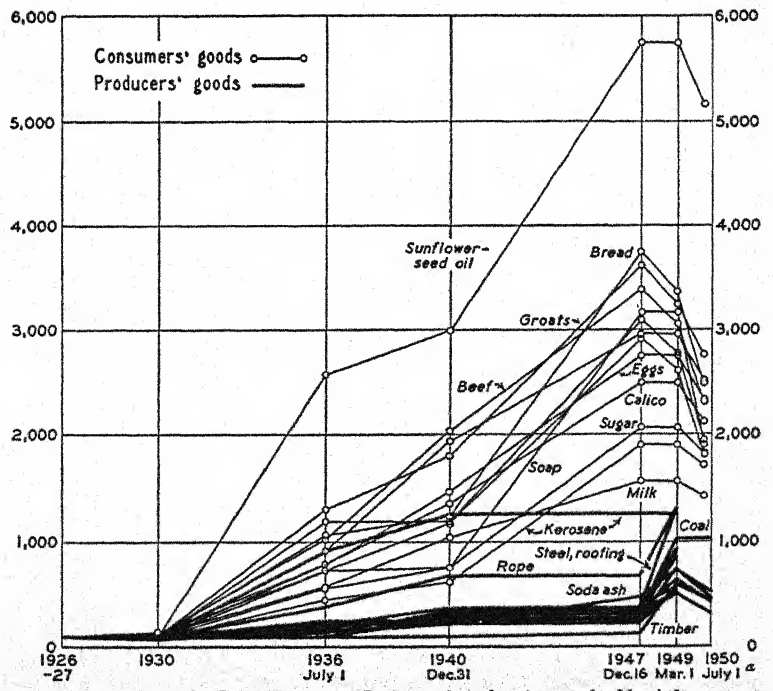
If any importance is assigned to these assertions, it must be assumed that it has been decided to hold wages also in the future, with the expansion in output and especially increased labor productivity permitting further price deflation. It would, of course, seem more reasonable for the Soviets to shift to a policy of stable prices with wages rising in proportion to that increase in consumption levels which will be considered desirable. Should such a policy be adopted, the Maizenbergs will proclaim it inherent only in the socialist state.

THE PRICE PATTERN

While the rise of prices during the Plan era was extraordinary in its duration, monetary inflation in itself is a quite ordinary phenomenon. The great peculiarity of the Soviet inflation has been that the prices of the various commodities rose at greatly varying rates, spreading out like a fan (Chart 1). It soon became

CHART 1.—THE FAN: USSR PRICE INDEXES OF IMPORTED GOODS AT SPECIFIED DATES DURING THE PLAN ERA*

(1926–27 = 100)



* Data in Appendix Table II.

[a] Consumers'-goods prices are for March 1.

impossible to speak of *one* price level in the USSR. In 1948, for example, the f.o.b. prices of steel were not quite three times those in 1926–27, but the price of common bread was almost 40-fold this level. The prices of other goods were mostly scattered all along between these two prices, although the extremes were even further apart. There was, however, a definite tendency for the individual prices to cluster around two widely separated levels.

Given such a tremendous scattering of prices, it is obviously irrational to convert a certain sum in rubles, for example the state budget, to any other currency or to any pre-Plan price level by the use of a single coefficient.[4] For example, the conversion of 445 billion rubles, the income expected in the 1949 state budget, to dollars at the official rate of 5.3 rubles or, for that matter, at the rate of 8 rubles for the diplomatic dollar tells nothing. Neither can that sum be converted to Russian 1913 or Soviet 1926–27 price levels by the application of any one factor. One can be misled even by statements that 36.7 percent of the total state's expenditures is expected to be used on the national economy, and 28.9 percent on cultural needs (education, health services, etc.).[5]

The cornerstone of Soviet economic policy is to expand its industry at an unheard of or, as they say in the USSR, at a "mad tempo." This necessitates the assignment to investment of an unprecedentedly large proportion of the national income, with real incomes and, specifically, real wages of the population low in consequence. Low real wages imply, relatively, very high prices of consumers' goods. In this the Soviet price system follows the standard pattern, except that the disproportion between the nominal wage level and the prices of consumers' goods is brought to an extreme. A country as poor as the USSR, seeking to reserve a huge portion of the total product for investment (and for expenditures on the army) and consequently to hold private consumption low by high prices of consumers' goods, cannot trifle with the matter by fixing high prices only on luxury goods. It must make it difficult for consumers to satisfy their desire even for common bread.

[4] M. R. Wyczalkowski ("The Soviet Price System and the Ruble Exchange Rate," in International Monetary Fund, *Staff Papers*, September 1950, I, 213) correctly points out that "there should . . . be two exchange rates for the ruble"—one for producers' and the other for consumers' goods. Actually even two rates are not enough.

[5] Government research institutions, e.g., the Office of Intelligence Research of the United States Department of State, and the War Industrial School, continue to indulge in such computations.

Low real wages are normally and naturally associated with high prices not only of consumers' goods, but also with high prices of the means of production. Moreover, the normal situation in such backward countries is for the prices of the means of production to be relatively higher than those of consumers' goods, of which a large part necessarily consists—under the conditions—of cheap farm products or goods made from these. The peculiarity of the Soviet price system is that means of production have become very cheap relative to wages and still cheaper relative to the prices of consumers' goods. This very peculiar type of relationship between the prices of producers' and of consumers' goods is indeed the feature which makes the Soviet price system unique. Of the two centers around which the prices in Chart 1 scatter, the upper center is that of consumers' goods and the lower center that of producers' goods. The wage level has commonly run between the two price levels. In Chart 2 the situation is demonstrated in terms of developments in the prices of coal and steel and of common bread, in the average freight rate received by railways, and in the average annual wage of all workers and employees (see p. 21).

The widely divergent price levels of producers' and consumers' goods are a firmly established part of the Soviet price system, indeed its foundation now. As is obvious from the description of the 1926–27 prices (see pp. 5–6), the situation was then reversed. It may seem that the new price pattern was forced on the Soviets by the disaster of the early 'thirties. But it would have come into existence, in a milder form, in any event.

The system of actual Soviet prices is extremely complex. The following prices are mentioned in the subsequent analysis, at least in passing:

1. Wholesale prices of the means of production:
   a) Fixed prices of the state enterprises
   b) Fixed or semifixed prices of local governments and productive co-operatives
   c) Costs to self-producers, in the first place, state building enterprises
2. Retail prices of consumers' goods:
   a) Charged by the government in its regular stores
   b) Charged by the government, during prolonged periods, in its "commercial" stores

c) Charged by production co-operatives
d) Semifree prices charged by the consumers' co-operatives for goods purchased by them in kolkhoz markets
e) Free prices in kolkhoz markets

3. Farm prices:
a) Paid by the state to kolkhozy and peasants on compulsory deliveries and kontraktatsiya (see note 2, p. 46)
b) Paid by the state to kolkhozy and peasants on purchases
c) Paid by the state to state farms
d) Paid by the co-operatives for resale at prices not higher than those in 2*a*
e) Free prices in kolkhoz markets, as in 2*d*

The items 2*a* and 2*c* include also producers' goods sold in the "broad market." Most groups of retail prices naturally have corresponding wholesale prices.

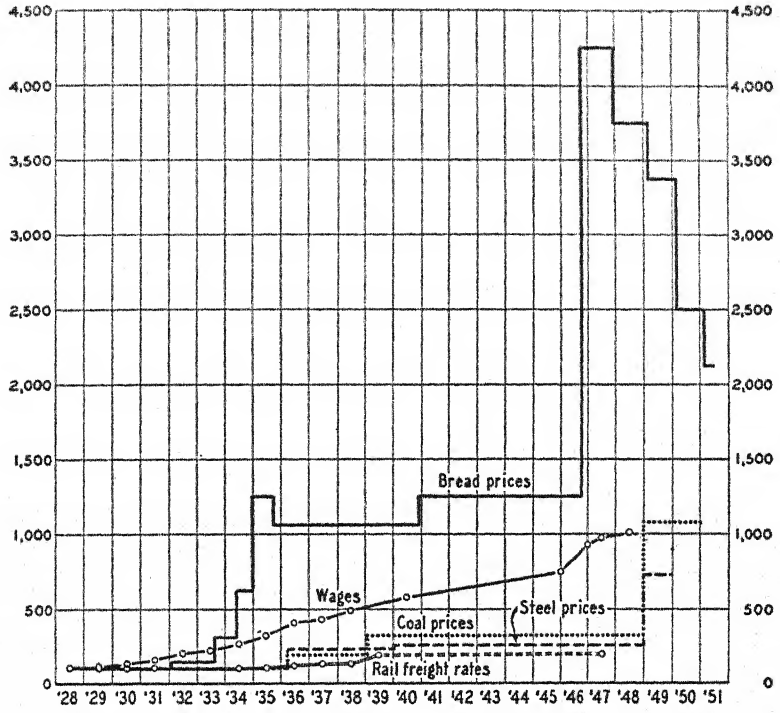
While this may seem debatable, the writer considers the multiplicity of prices to be one of the factors which justifies the characterization of the state of the Soviet price system as chaotic. Among other great disadvantages of the system is the fact that unfair practices of the worst sort cannot be prevented by any means. It is also to be mentioned that the prices are revised too rarely, and not simultaneously for all goods and services, and that considerable disproportions between the various prices exist at the time the prices are set, and these disproportions increase thereafter. Over considerable periods the situation was such that the price levels and price relationships were unusable for efficient planning and analysis. A Soviet analyst of regional differences in production costs, writing in 1950, had to base his analysis on the costs of 1941.[6] This is especially striking because in the second half of 1941 the Soviet economy was so far disorganized that costs were certainly not ascertained. Two scholars wrote on technical problems of irrigation in 1949,[7] but the data on some operations recommended by them were stated in 1938 prices.

Along with the prices proper, nominal wages (the price of labor) are subjected to analysis in subsequent pages. The wage

[6] P. Livshits, "On Regional Differences in Labor Productivity," *Questions of Economics* (Moscow), 1950, No. 6. pp. 30–40.
[7] *Socialist Agriculture* (Moscow), June 9, 1949.

CHART 2.—CERTAIN BASIC PRICE INDEXES FOR THE SOVIET UNION DURING THE PLAN ERA*

(1928 = 100)



* Official data except as noted. Wages from tabulation, p. 23. Indexes for coal (Donbass bituminous) and steel (average of structural profile 18 and railway rails) based on Jasny, *Soviet Prices of Producers' Goods*, Appendix Tables III and V. Freight rates based on *ibid.*, chapter iii. Bread prices (common whole-rye) from various Soviet sources; price changes in 1933 and 1934, not officially obtainable, were estimated on the basis of changes in flour prices.

series may be taken, with reservations, as a kind of indicator of the rate of inflation; indeed it seemed appropriate to begin the discussion with wages. This would have made no sense if the official claims were correct that consumption levels have increased greatly during the Plan era. Actually, even the nominal wages do not serve at all well as an indicator of inflation. The wage curve was always below the inflation curve as one may imagine this; in many years wages remained greatly below it. The only reason for using the wage curve as an indicator of inflation, indeed, is simply that it is the curve least unsuited to the purpose. At least it rises steadily during almost the whole Plan era.

A discussion of wages along with the prices of producers' and consumers' goods brings into focus the challenging problem of production costs. In spite of the great rise of *nominal* wages, their share in the total production costs of industry, computed in current prices, declined rapidly all through the peaceful years of the Plan era. According to Turetskii,[8] that share fell from around 40 percent in 1928–29 to around 25 percent in 1940. So far as concerns goods processed from materials with heavy turnover taxes put on them, part of the decline is due to these taxes, which were introduced only after 1928–29. But the development is in evidence also in the case of goods in the production of which heavily taxed materials have little or no part.

For reasons of their own, the Soviets are proud of this phenomenon. The development is supposed to proceed exactly in accordance with the Marxian law that the share of the former labor crystallized in the product is becoming ever larger as compared with the input of new labor. This is of course true, as it is true that the law was known long before Marx, and that certain increases in labor productivity, some of them large, were attained in the USSR. But Marx certainly did not dream of turnover taxes of Soviet proportions in a socialized economy, or that the proportion of nominal wages in total costs would decline *simultaneously* with a rise in prices of consumers' goods much greater than the rise in wages. An analysis of production costs would involve thorough study of the changes in labor productivity and thus exceeds the limits of this study.

NOMINAL WAGES

The nominal wages are tabulated in the accompanying table. No reason is known for mistrusting the official data in prewar years, although these data were released in detail only for the years 1928–35 and 1937. Not a single figure has been released on the average wage rate in postwar years, except for the 1950 goal of the 4th plan of 6,000 rubles per year.

The extreme shortage of men during World War II necessitated widespread resort to overtime and Sunday work—with disproportionately greater increases in pay. Still this was not the most important wage-raising factor. The same shortage com-

[8] Sh. Turetskii, *Intra-Industrial Accumulations in the USSR* (Moscow, 1948), pp. 36–37.

AVERAGE ANNUAL WAGE PER PERSON IN THE USSR, FROM 1926-27*

Year	Rubles	Relatives	
		1926–27 = 100	1928 = 100
1926–27	624	100.0	88.8
1927–28	681	109.1	96.9
1928–29	738	118.3	105.0
1928	703	112.7	100.0
1929	800	128.2	113.8
1930	936	150.0	133.1
1931	1,127	180.6	160.3
1932	1,427	228.7	203.0
1933	1,566	250.9	222.7
1934	1,858	297.8	264.3
1935	2,269	363.6	322.7
1937	3,038	486.9	432.1
1938	3,467	555.6	493.2
1940	4,054	649.6	576.6
1946 (beginning)	5,250 or less	841.3	746.8
1946 (end)	6,500	1,041.7	924.6
1947	6,813	1,090.8	969.1
1948	7,056	1,130.8	1,003.7
1950 (goal)	6,000	961.5	853.5

* Official data for prewar years. For 1932–38 data, see a compilation by Abram Bergson, "A Problem in Soviet Statistics," *Review of Economic Statistics*, November 1947, XXIX, 236. The 1940 figure is from M. M. Lifits, *Soviet Trade* (Moscow, 1948), p. 52. For explanation of postwar wages see text, except for the 1950 goal, which is from the 4th Plan.

pelled the government to make substantial wage boosts. These were granted almost exclusively to those directly indispensable for defense. A wage increase to teachers by the order of August 11, 1943 may be the only exception. Wage-rate increases to important worker groups started with the entrance of the USSR into the war. Such raises are indicated, for example, for *railway workers* as early as 1941.[9] A fundamental revision of the wage rates of *construction workers* occurred in 1944. An authentic source published official conversion factors for wage rates of these workers from the 1939–40 and 1942 levels to the 1945 level, as brought about by the 1944 revision.[10] Nineteen categories of occupations were listed with rises in wage rates ranging

9 T. S. Khachaturov, *Economic Principles of Railway Transportation* (Moscow, 1947), I, 54.

10 USSR Ministry of Construction, *Collection of Principal Materials and Consultations on Construction* (Moscow), 1943, No. 3, pp. 9–12.

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from 23 to 65 percent and averaging possibly 50 percent. Among the various categories of workers listed were *metalworkers* with an increase in rates of 39–40 percent. Although the conversion factors pertained only to metalworkers engaged in construction, these workers are unlikely to have been treated differently from other metalworkers. However, the increase in wage rates of the regular metalworkers probably occurred before 1944. The same certainly was the case with miners.

The average paid-out wage (not the wage rate) of *workers in the centralized industry* increased 53 percent from 1940 to 1944, but only 44 percent for *all industrial workers*, according to Voznesenskii.[11] Other data of that author indicate considerably greater rises of average earnings of coal miners and metalworkers everywhere and of all industrial workers specifically in the East. Voznesenskii's evidence obviously points to great unevenness of the wage increases. For example, the 53 percent wage rise of the workers of centralized industry and the 44 percent rise for all industrial workers implies no increase for the workers of the noncentralized industry.

In addition to Voznesenskii's evidence on increases in average paid-out wages, only those for *transport workers* can be cited for the war years. The increase in this case was equivalent to 55 percent from 1940 to 1945.[12] It seems not improbable that in the first half of 1945 the average paid-out wage of *all workers and employees* was around 5,500 rubles, or about 35 percent above 1940. By the end of 1945 or the beginning of 1946 it may have declined to, say, 5,000–5,250 rubles.

That level was the basis for the goal of 6,000 rubles of the 4th Plan for 1950 (the Plan was approved in March 1946). The figure of possibly over 5,000 rubles in the base year of the Plan may seem unbelievably high to those who think that the Plan had necessarily to provide for a very large increase in wages. As a matter of fact, there was no reason to expect great wage raises in the Plan. Before the war the Soviets had embarked on a policy of permitting only moderate wage rises, *far* smaller than the increases in labor productivity. They were disgusted by the con-

11 N. A. Voznesenskii, *War Economy of the USSR during the Patriotic War* (Moscow, 1948), pp. 117–18.

12 V. E. Umbliya, *Bases of Organization, Normalization, and Planning of Labor in Railway Transportation* (Moscow, 1947), p. 176.

cessions which they had had to make to the workers during the war. Moreover, 6,000 rubles as the scheduled average yearly wage in 1950 did not carry much meaning to anyone, in the USSR as well as abroad, because nobody knew the average wage in 1946 or any year after 1940 (in 1948 a little—very little—light was shed by Voznesenskii's book). Under such conditions, even a goal not exceeding the existing level could not have a discouraging effect.

The price-wage basis of the 4th Plan, whether a matter of policy or convenience, was overthrown by the great boost of prices of consumers' goods effective September 16, 1946. In connection with this, except for persons earning more than 900 rubles, monthly wage increases were granted of 70 to 110 rubles (110 rubles for those earning less than 300 rubles; 100 rubles for those earning 300–500 rubles; and so forth). The monthly wage of all wage earners must have been raised by about 95 rubles on the average.

Two weeks earlier, effective September 1, 1946, *workers* and superior technical personnel in important economic enterprises of the Urals and east of there, were given the benefit of 20 percent higher pay than corresponding persons receive in the West.[13]

Only scattered data are available on the *average* wage paid in postwar years, but whatever evidence is available indicates that no major changes in wages outside of the two mentioned above have occurred since 1945. According to a leading article in *Railway Transport*:[14] "Now wages [on railways] are 192.6 percent of those of 1940"—"now" pertaining to 1947. According to *Communal Economy of Moscow*,[15] in 1948 the average wages of *workers* in Moscow industries were more than twice the 1940 average; the wage fund, however, increased only 71 percent from 1940 to 1948. I. M. Kratchenko, deputy Minister of Coal Industry, emphasized that wages of coal *miners* increased 2.5-fold as compared with prewar; in some areas, such as Kuzbass, more than 3-fold.

If the above were typical, an increase of possibly 100 percent, or more, in the average wage from 1940 to, say, 1948 or 1949 would have to be assumed. However, most specific data are definitely for selected groups, mostly *workers* rather than all *wage*

13 V. Kuznetsov in *Pravda* (Moscow), May, 11, 1951.
14 *Railway Transport* (Moscow), 1948, No. 10, p. 9.
15 *Communal Economy of Moscow* (Moscow), 1949, No. 2, p. 20.

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earners. The statement in *Trud*[16] on the wages of miners may well have pertained only to *underground workers*, possibly only to those directly mining the coal.

To make an estimate of the average wage in postwar years, we have to turn to the very indefinite Soviet concept of the wage fund. First it should be mentioned that according to an official interpretation, premiums out of special funds, which exist in cases prescribed by law, are not included in the wage fund of individual enterprises, which serves as the basis for determining their average wage.[17] The so-called director's fund is one of these special funds. All such payments from special funds are unlikely to raise the average measurably.

It is to Bergson's credit that he showed that the commonly reproduced Soviet data on the number of wage earners, the average wage, and the total wage fund do not coincide.[18] For example, multiplication of the number of wage earners (31.2 million) and of the average wage as shown officially for 1940 (4,054 rubles) yields 126.5 billion rubles, while the total fund was given at 162 billion rubles.[19] Thus total wages proper of the regular wage earners amounted to 78.6 percent of the total wage fund in 1940 as announced officially. The quite substantial balance between those two sums of 35.5 billion rubles must have consisted primarily of payments (including cost of subsistence) to persons not classified as regular wage earners, such as the personnel in the armed forces, and later prisoners of war as well. That balance most likely included also the expenditures on the concentration camps. The premiums to regular workers out of special funds, not included in the wage funds of individual enterprises, may nevertheless form part of the total wage fund as announced.

To make a further step in determining the average wages in postwar years, the total number of workers and employees is to be determined. The 1948 report of the Central Statistical Office (Moscow papers of January 20, 1949) stated that the 1948 number was 10 percent above that of 1940. Since the previous practice was to give for this item the yearly average, this is assumed to

16 *Trud* (Moscow), Aug. 26, 1950.

17 USSR Gosplan, Central Office of National-Economic Accounting, *Dictionary-Handbook on Social-Economic Statistics* (2d ed., Moscow, 1948), p. 400.

18 Abram Bergson, "A Problem in Soviet Statistics," *Review of Economic Statistics*, November 1947, XXIX, 234–42.

19 M. M. Lifits, *Soviet Trade* (Moscow, 1948), p. 52.

have been the case here. The 1940 figure was 31.2 million. Consequently the 1948 midyear figure was 34.3 million and since, according to the same report, there was an increase of 2 million from 1947, the 1947 midyear figure for the number of workers and employees was 32.3 million. The 1949 and 1950 reports (Moscow papers of January 18, 1950 and January 27, 1951) gave the increase in the number of workers and employees at 1.8 million and 2.0 million respectively (the latter figure for the end of the year). Hence the midyear figures were approximately 36.1 and 38.1 in 1949 and 1950 respectively. For the end of 1950, the 1950 report had 39.2 million as the number of workers and employees.

Lifits[20] made the following greatly contradictory statement: "In 1947 the wage fund of the workers and employees exceeded the prewar fund (1940) by 118 billion rubles, i.e., almost 50 percent." Since the 1940 fund was 162 billion rubles according to the same source, an increase even by fully 50 percent would have amounted to only 81 billion rubles. In view of Molotov's statement[21] that the 1948 fund was almost double that of 1940, only the 118 billion rubles in Lifits' statement can be properly used as the difference between the 1947 and 1940 wage funds. Even this figure seems very suspicious because, with 162 billion as the 1940 wage fund, it yields 280 billion rubles as the 1947 wage fund, i.e., exactly the Plan figure for this year.[22] However, we have no choice but to accept it as the fund actually expended, remembering that the findings are by no means certain.

Since the already cited 1948 report of the Central Statistical Office indicates a 10 percent increase of the wage fund from 1947 to 1948, the 1948 wage fund becomes 308 billion rubles or rather close to double the 1940 fund (remember Molotov's statement).

There seems to be no alternative but to assume that total wages proper, comparable with the prewar official figures, represented the same percentage of the total wage fund in 1947 and 1948 as in 1940. Then the total wages proper amounted to 220.1 and 242.1 billion rubles in 1947 and 1948, and the average yearly wage was 6,813 and 7,056 rubles in 1947 and 1948 respectively.

[20] *Ibid.*, p. 115.

[21] Here cited from the leader of the monthly *Socialist Agriculture* (Moscow), 1948, No. 11, p. 3.

[22] See the 1947 Plan in Moscow papers of March 1, 1947.

The 1947 report indicates an increase of the average wage of 18 percent, and hence according to official data, the average wage was 5,774 rubles in 1946. Since there was a considerable rise of wages in connection with the great boost of prices of rationed consumers' goods beginning September 16, 1946 and owing to the increase of wages in the East by 20 percent beginning September 1, 1946, early in 1946 the average wage may have been only 5,250 rubles,[23] while at the end of the same year it amounted to some 6,500 rubles.

A figure of roughly 7,000 rubles for 1948, or 75 percent above the 1940 level, seems to make sense. It is quite possible that perhaps 20 percent of *all* wage earners were getting a wage double (more or less) that of prewar; this was offset by, say, 25 percent of all the wage earners receiving only 50 percent more (practically only the two 1946 raises), with the increases in wages of the remaining 50–55 percent spreading between 50 and 100 percent.

There is a final reason for caution in generalizing from the large wage increases of certain groups of workers. This is the doubt that there were enough consumers' goods offered for sale to justify, say, a doubling of the average wage from 1940 to 1949.

The 1949 and 1950 reports of the Central Statistical Office did not contain even such indefinite data on the total fund as were given in the 1947 and 1948 reports. This may be an indication that there were not even such small raises in average wage (less than 4 percent) as was claimed for 1948. In view of the rather drastic reductions in the prices of consumers' goods in 1949–51, and considerable reduction in the prices of producers' goods in 1950, a severe policy of holding wages or even cutting them back slightly was probably pursued. The 1947 Plan, indeed, ordered the raising of obsolete and too low norms of performance. In the machine industry, repair factories, subsidiary enterprises, and subsidiary shops the performance norms were to rise by 20–25 percent on the average (apparently all norms, not only the obsolete and too low ones). This average rise was ordered also for the republican and local industries, but only for the obsolete and too low norms. Unfortunately nothing is known of the outcome

[23] This is slightly more than the estimate above, but there is no reason to worry about such small differences.

of the order. While it is impossible to appraise the effect of this sweeping measure on the average earnings of all wage earners, it may be taken as an indication of a strong policy at least to hold, if not to reduce, the average wage. Two- to three-percent rises in average wage of all wage earners per year in 1949 and 1950 seem not excluded nevertheless.

Harry Schwartz[24] follows the same procedure as that of the writer but arrives at moderately higher figures (6,000, 7,100, and 7,400 rubles in 1946, 1947, and 1948 respectively). The United States Department of State, Office of Intelligence Research,[25] is very close to this writer's figures with 6,000, 6,600, 6,900, and 7,200 rubles in 1946 through 1949. The United States Department of Labor (personal information from Mr. Otto Reicher) has 4,800 rubles for 1946 before September 15, and 6,000 rubles for the remainder of the year, as well as for 1947 and 1948; its estimate for both 1949 and 1950 is 6,000–7,200 rubles.

Solomon Schwartz[26] occupies an isolated position with an estimate of only 5,140 rubles in 1949–51. Solomon Schwartz is certainly in the wrong. He assumes for the beginning of 1946 a wage level even lower than in 1940, in spite of the evidence of substantial wage raises for large groups of workers during the war. His estimate could have been made only in complete disregard of the highly inflationary situation during and immediately after the war, which in no case could have left the wage sector untouched. His estimates for the latest years disagree with the evidence on output of consumers' goods, retail turnover, and the large "voluntary" loans the government is able to issue. They make unexplainable the great increase of prices of producers' goods in 1949. They just do not fit in the whole Soviet economy.

Addition in proofs.—With complete and deliberate disregard of all work done on the wage level outside of the USSR, Alexander Baykov's *Bulletin of Social Economic Development* (Birmingham, No. 6, June 1951, p. 21) came out with an estimate of the average yearly wage in 1950 of 9,555 rubles. G. B. Barker,

24 Harry Schwartz, *Russia's Soviet Economy* (New York, 1950), p. 640.

25 U.S. Dept. State, Office of Intelligence Research, *Soviet Prices and the Purchasing Power of the Ruble* (mimeographed, Washington, 1950), Chart 1.

26 Solomon Schwartz, *Socialist Courier* [Russian] (New York), Feb. 20, 1950; and other publications.

the author, believes he has a basis for his estimate in the official announcement that in 1950 the total incomes of wage earners and peasants exceeded the 1940 level by 62 percent. It should be clear to any *analyst* that this claim is a brazen lie. Moreover, the claim does not, by far, imply as high a wage as 9,555 rubles per year, if the dubious mechanics are considered by which the fantastic claims with reference to consumption levels are attained in the USSR (see *The Soviet Economy during the Plan Era*, pp. 69–72).

As indicated by the data in the table on page 23, nominal wages about doubled during the 1st Plan Period (1928–32), and again more than doubled during the 2d Plan Period (1932–37). As compared with this rate of increase, the rise by one-third during the three peaceful years of the 3d Plan Period (1938–40) was almost moderate. Taking into consideration the enormous prices of consumers' goods in the free markets, the rise of average wages by some 35 percent during the war years 1941–45 must likewise be considered as extremely small. The figure for 1948 in the tabulation is 10-fold the level at the start of the Plan era in 1928, and, if 1926–27 is used as the base, the rise was about 11-fold.[27]

The series of average wages here presented is in no way a substitute for an analysis of the trend in wages. The proportion of low-paid labor engaged in forest work in the total labor force probably declined considerably during the Plan era, and this implies, of course, that the average wage was raised above the level of each individual group. The proportion of women, on the other hand, increased considerably, with probably the opposite effect on the average wage. All this needs careful attention which cannot be given here.

CONSUMERS' GOODS

At about the time the 1st Plan was inaugurated in 1928, some producers' goods, such as coal and coke, were sold to the metallurgical enterprises at lower prices than to other users. On the other hand, building materials were sold at lower prices on the

[27] To base the analysis on prices and wages of 1926–27 rather than 1927–28 has the disadvantage of exaggerating the increase in wages relative to prices of consumers' goods during the Plan era. Wages increased by 9.1 percent from 1926–27 to 1927–28, while the cost-of-living index declined by 1.3 percent; see USSR Gosplan, *Control Figures of the National Economy USSR for 1929–30* (Moscow, 1930), p. 578. Thus, real wages were 10.5 percent higher in 1927–28 than in 1926–27.

"broad market" than to the state building organizations. In any case, for a few years in the early part of the Plan era the government continued to feel it its duty to assure the population of bread and a few other necessities at low, mostly even unchanged, prices. In view of the rapidly advancing inflation, including a large increase in nominal wages, the prices soon became very low prices.[28]

A change came early in 1932. Even the cheapest grade of rye bread went up more than 50 percent in one sweep, effective February 1, 1932. The prices of all the principal foods in regular government and co-operative trade became perhaps double those of 1928. These increases, it is true, merely restored the relationship between wages and the prices of consumers' goods which had prevailed in 1928. The new prices of consumers' goods were indeed still low, considering the disastrous situation on the food market brought about by the compulsory collectivization of peasant farming.

But the 1932 price boost of rationed food was only a beginning. In 1933 the bread price was doubled; and in 1934 the doubling was repeated. By that year the bread price had been raised to a level more than 6-fold that of 1928. Wages were then only about 2.5-fold this level. Thereafter, the Soviets never wavered in the new policy of superhigh prices for consumers' goods, relative to nominal wages, relative to the prices of producers' goods, indeed relative to the prices of everything else.

Moreover, in the early 'thirties, the government covered only part of the demand for the most basic necessities at the stated prices, and failed to provide anything in other goods at comparable prices. The distribution through government and co-operative channels had indeed been on rations from as early as 1930; a start with rationing had been made in 1929. The situation was so serious that the government was also compelled, first, to suffer private markets, and, after 1932, to legalize and even encourage them. In these markets, food and other farm products were sold by the producers at free prices many times higher than the prices charged for rations by the state and co-operative trade. These markets came to be known as the kolkhoz markets. The situation in them was similar to that observable in most countries during

[28] For food prices in 1928–31, see Central Office of National-Economic Accounting, *National Economy USSR: Statistical Handbook, 1932* (Moscow, 1932), pp. 348–49. But the Moscow price of 8 kopeks for common rye bread is used in this study for all those years.

the recent war—with the difference that the place of the familiar black and gray markets was taken in the USSR by a legalized institution.[29] Another peculiarity of the free-market prices of those years was that the spread between the prices for rations and those on the free markets reached magnitudes rarely observed in other countries even during wars.

Soon the state became greedy for the high "profits" made in the kolkhoz markets. In 1933, the operations of the state "commercial" stores, which had existed since 1929, were expanded to include food products. While providing a subminimum supply on rations at the described prices in its regular stores as well as in co-operative stores, the government began to sell additional quantities of the same goods, and other better goods, in these "commercial" stores at very much higher prices—prices more or less in line with those in kolkhoz markets. In April 1933, the government charged in its "commercial" stores 15 rubles per kilogram of sugar (1928 price, 64 kopeks, and 1933 price for rations, 1.25–2.50 rubles); 35 rubles per kilogram of vegetable oil (1928 price, 49 kopeks); and 2.50 rubles per kilogram of rye bread (1928 price, 8 kopeks, and 1933 price for rations, 12.5–25.0 kopeks).[30] The remarkable picture emerged of the Soviet state's having taken over the function of black marketeers and of performing it with great efficiency, so far as direct profits are concerned.

Actually there were not merely two different prices, as on rationed and unrationed products in government stores, or three prices if the kolkhoz markets are considered, but many more. Several categories of consumers were granted varying discounts in government "commercial" stores, and there were also special government stores making sales for payment in gold or jewelry. According to Turetskii, there existed up to 10 different price schedules for identical items in government "commercial" stores.[31] As if this were not enough, restricted canteens and co-

29 This permitted the Communists to insist during the recent war that the USSR was the only belligerent country without a black market. Many an American was caught by this trick.

30 Prices for 1933 from G. Y. Neiman, *Internal Trade of USSR* (Moscow, 1935), p. 293; the 1928 prices for the co-operative trade and 1933 prices for rations from S. N. Prokopovicz, *Russlands Volkswirtschaft unter den Sowjets* (Zürich and New York, 1944), p. 305; and *National Economy USSR: Statistical Handbook, 1932*, pp. 348–49.

31 Turetskii, *op. cit.*, p. 310.

operative stores in individual factories, selling at varying prices, were permitted and began to mushroom rapidly.

While the state "commercial" stores returned substantial profits, such a system of distribution could not fail to affect labor productivity greatly by reducing the importance of the cash wages, by promoting dishonesty, and the like. An improvement in agricultural output from the disastrous level of the early 'thirties, as well as a certain increase in the output of consumers' goods from nonfarm products, permitted the discontinuance of rationing and of "commercial" stores in 1935. Grain products were derationed on January 1, 1935; rationing of meat, fish, sugar, fat, and potatoes was discontinued on October 1, 1935. Since supplies continued very low, derationing could have occurred only on the basis of high prices. While the new prices in the regular government stores were far below the previous prices in government "commercial" stores, the solidification of the two previous price levels into one occurred at a point very high relative to the prices of the same goods in 1926–27 or 1928, to existing wages, and especially to the existing prices of producers' goods. The new uniform price of black bread in government and co-operative stores, for example, was 100 kopeks per kilogram as against 8 kopeks in 1926–27 and 1928. Even when it was reduced to 85 kopeks, effective October 1, 1935,[32] it remained at a level fully 10-fold that of the pre-Plan era.

The kolkhoz markets continued to exist after 1935. No systematic data on the prices in those markets were, unfortunately, ever released, though the Soviets have the data. While after abolition of rationing kolkhoz-market prices probably were higher on the average than those of the state and co-operative trade, the difference could not have been large, at least by Soviet standards, so long as the state had something to sell. The beginning of war outside of the USSR in 1939 and the start of government, and probably private, hoarding again plunged the country into a state of empty shelves in government and co-operative trade on a broad scale and much higher prices in the kolkhoz markets.

The first war acts with reference to the prices of consumers' goods occurred before the Union entered the war. Indeed, price

[32] In *The Socialized Agriculture of the USSR* (Food Research Institute, Stanford, 1949), on page 760, I erroneously stated that the bread prices effective January 1, 1935 remained in force for several years.

rises started as early as January 24, 1940 (sugar, meat, potatoes). The meat price was soon raised again and butter accompanied it this time. On July 15, the prices of textiles and shoes went up drastically. The prices of certain important grain products followed after October 22, 1940 (those of some other grain products seem to have been raised earlier), the price of common rye bread again becoming equivalent to 100 kopeks per kilogram. The principal price rises during the year amounted to: common bread, 18 percent; beef, over 50 percent; butter and sugar, 33 percent; potatoes, 80 percent; and textiles and shoes around 100 percent. Having raised the prices of consumers' goods quite substantially in advance of hostilities, Soviet potentates later could brag of unchanged prices of consumers' goods during the war.[33]

Rationing was restored soon after the USSR entered into war with Germany, and prices in kolkhoz markets soared to fantastic levels. Rye bread is reported to have been sold at as high as 300 rubles per kilogram; this, perhaps, only on occasion.[34] In 1944 the state "commercial" stores were likewise revived. With the continued advance of nominal wages, rationed food became relatively less expensive. But the principal feature of the new price system was preserved: the prices even of rationed food remained very high relative to wages and especially to the prices of producers' goods.

Effective September 16, 1946 prices of rationed consumers' goods were raised by percentages up to 240.[35] Intensifying the practice in pre-Plan times, common rye bread was the commodity boosted most strongly in price. Its price reached a level more than 40-fold that of 1928, although wages were little more than 9-fold that level. The price raising occurred in anticipation of abolition of rationing, but this was postponed for more than a year. Kolkhoz markets and state "commercial" stores continued to do a booming business, so far as prices are concerned.

33 See for example Voznesenskii, *op. cit.*, p. 128.

34 According to Voznesenskii (*op. cit.*, p. 129), the prices of crop products were 12.6 times as high in 1943 as in 1940 and the prices of animal products 13.2 times as high, but the statement was not substantiated with any evidence and the price rises are likely to have been much greater than this. In any case, it at least related the war prices to those of December 31, 1940, rather than to the average prices of the whole year, or, the most proper procedure, to those of January 1, 1940.

35 I. B. Kravis and Joseph Mintzes, "Soviet Union: Trends in Prices, Rations, and Wages," *Monthly Labor Review* (U.S. Dept. Labor), July 1947, LXV, 5.

To give an idea of the immense margins between the prices in kolkhoz markets and those paid by the state on obligatory deliveries, the illuminating relationships between these prices are presented below. They are calculated from prices used by an official author in his calculations of tax payments by a sample kolkhoz. He designated his data as arbitrary, but they could have been so only to the extent that they were rounded to simplify calculations. The prices received by the kolkhozy for obligatory deliveries could not have been understated and the prices realized in kolkhoz markets could not be overstated, with the political situation as it is in the USSR. The book was published in 1948, and the prices are probably those of 1947, shortly before abolition of rationing.

PRICES IN KOLKHOZ MARKETS AS MULTIPLES OF PRICES PAID ON OBLIGATORY DELIVERIES AND KONTRAKTATSIYA*

Item	Multiple	Item	Multiple
Potatoes	43	Beets	20
Cabbage	21	Apples	10
Cucumbers	33	Milk	20
Carrots	38	Butter	15

* Computed from data (given below, p. 52) in V. S. Dankov, *On Income Tax on Kolkhozy* (Moscow, 1948), various pages. Dankov also gives data (not reproduced here) on the distributions by the kolkhoz to its kolkhozniki. Although representing only a sample, these figures, coming from so authoritative a source, are an amazing manifestation of exploitation of the kolkhoz peasants and their starvation incomes.

Rationing, along with the state "commercial" stores, was discontinued, effective December 16, 1947. The former greatly enhanced prices of rations, with moderate reductions (common rye bread 3 rather than 3.40 rubles per kilogram),[36] became the uniform prices of state and co-operative trade.

Two further major cuts in the prices of consumers' goods, effective March 1, 1949 and March 1, 1950, following a minor one effective April 1, 1948, occurred after derationing. In the aggregate, they were very substantial.[37] The price of common rye bread in Moscow became 2.70 rubles on March 1, 1949 and

[36] The price in Zone 2, which includes *inter alia* Moscow and Moscow oblast.

[37] After this was written, a further curtailment was ordered effective March 1, 1951.

2.00 rubles on March 1, 1950. However, even after all these reductions the bread price in Moscow was 135 percent above the level of January 1, 1940 and 25-fold that in 1928.

The kolkhoz markets continued to operate after the abolition of rationing in 1947—as was true after October 1, 1935 and in subsequent years. Since the end of 1946, the co-operatives have been permitted to purchase farm products from the producers at free prices for resale to consumers, but not to charge higher prices for the purchased goods than those in state stores.[38]

PRODUCERS' GOODS[39]

Four major stages can be distinguished in the development of prices of producers' goods during the Plan era. The period up to April 1, 1936 first displayed slightly declining and then largely unchanged prices, so that producers' goods, once far more expensive than consumers' goods, became far cheaper. On January 1, 1935, when a retail price of rye bread 12.5-fold that of 1926–27 was established and wages were almost 3.5-fold their 1926–27 level, the prices of coal and especially of steel were still below that level. The price development of basic chemicals was similar to that of coal and steel, as was that of timber, lumber, cement, and many other materials. Freight rates remained practically unchanged. Newly introduced machinery and locally produced building materials were the only producers' goods with prices in 1932 and 1935 above those in 1926–27. While prices of some machines were very high, none probably was as high (relatively) as even the rationed food. The rise in prices of local building materials, the nonprevention of which the Soviets regarded as a great failure at that time, was trifling as compared with the increase in food prices.

The high prices involved in new investment had been deplored for a long time. Hence, when the prices of consumers' goods started to run away, the development was not undesirable for the Soviets. Merely by holding the prices of producers' goods it was possible to create a price pattern much better adapted to the drive for all-out industrialization than the pre-Plan pattern.

[38] Order of November 9, 1946, here quoted from *Socialist Agriculture*, Nov. 15, 1946.

[39] The writer's forthcoming *Soviet Prices of Producers' Goods* deals in greater detail with the trend of prices of producers' goods.

April 1, 1936 started the second stage in the development of prices of producers' goods. The prices of coal and steel were raised to about double their 1926–27 level. The price increases were somewhat less in nonferrous metals, chemicals, and building materials, but somewhat larger in products from wood, and still greater (about 3-fold, tax-free basis) in producers' goods from farm products. The evidence pertaining to machinery (see *Soviet Prices of Producers' Goods*, chapter ix) is uncertain, but it indicates a rise in prices of only 30 percent from the greatly overpriced level in 1926–27 to 1936. Freight rates (actually the weighted average per-kilometer charge) were raised in 1936 to about 65 percent above the 1926–27 level.

By 1937 the prices of all producers' goods (tax-free basis)[40] were about 75 percent above 1926–27, while the prices of all consumers' goods were more than 8-fold, and wages not quite 5-fold, the 1926–27 level. Thus the policy of undervaluing producers' goods was preserved, but the margins between the prices of these goods and those of consumers' goods and wages were narrowed.

The revisions of prices of producers' goods in 1939 and 1940 brought all of them to a level about 150–175 percent above 1926–27. Freight rates were raised to about 2.5-fold this level.

The prices of consumers' goods rose considerably less than producers' goods in 1936–39 (the 1940 increases in the prices of consumers' goods made in anticipation of war belong in the third stage of price development, namely, that of war and postwar years),[41] and the margin between the prices of producers' and consumers' goods was narrowed still more though remaining very large. Wages rose from 1936 to 1939 by about 50 percent, and the price increases of producers' goods in 1939–40 were in the first place intended to make up for this rise.

The third stage in the development of prices of producers' goods, which lasted from 1940 until the end of 1948, was one of retracing the road already passed, because of the inability to undertake an upward revision of the prices of producers' goods under the prevailing disturbed conditions. The prices of coal, steel, and many other producers' goods remained unchanged all

40 Actually, taxes proportionate to those which existed before the Plan era are left in. Only the high additions of later years are eliminated.

41 The prices of only a few producers' goods, mainly tin, were raised in preparation for war.

through those years, although wages were increasing continuously and the ruble was generally losing value. The prices of all producers' goods (tax-free basis) are assumed to have been in 1945 3-fold their 1926–27 level, and the increases in the next three years were insignificant (*Soviet Prices of Producers' Goods*, chapter i). Average freight rates were raised moderately during the war by abolishing special reduced rates, but the previous status was restored after its end. The disparity between the prices of producers' goods and freight rates on the one hand and the prices of consumers' goods on the other became especially pronounced when, effective September 16, 1946, prices of rationed consumers' goods were boosted greatly. In 1948 the steel and coal prices were still about 3-fold their 1926–27 level and freight rates only 2.5-fold, whereas bread cost 37.5 times more and wages were about 11 times as high as in 1926–27.

Effective January 1, 1949, the prices of practically all producers' goods were in one thrust raised to a level at least double that which existed before.[42] For many important commodities, the rise in prices was greater than it had been during the whole preceding period of the Plan era.[43] The price of coal from the Donetz Basin, the principal coal area, was lifted 232 percent, and that of common steel about 175 percent.

The price changes of producers' goods, effective January 1, 1949, and of consumers' goods, effective March 1, 1949, fully restored the relationship between the coal and steel prices on the one hand and bread prices on the other which had existed from January 1, 1940 to October 22, 1940. However, the price raise of producers' goods, effective January 1, 1949, fundamentally changed the relationship of the prices of industrial raw materials to nominal wages. If the data in the table on page 23 are roughly correct, wages did not quite double after February 1, 1939, and the increase of coal and steel prices by 232 and 175 percent respectively, in 1949, created an entirely new relationship between wages and the prices of coal and steel. With 1928 as the base,

42 Prices remained unchanged only on those goods (mainly most kinds of motor fuel) for which special reasons existed.

43 In spite of this, the officially prescribed reference to the sweeping price boost of 1949 is to a "certain" increase. Thus far Soviet writers cling to the terminology. P. Vladimirov, for example, referred to it as "a certain increase since January 1," in "For Profitable Operation of Enterprises," *Questions of Economics*, 1948, No. 8, p. 31.

the increase in coal prices exceeded that of wages. There is no end to the boasts of the high degree of mechanization reached in coal mining.[44] The greater the progress in this during the Plan era the less justified appears the 1949 price of coal. The 1949 level of steel prices was not as high as that of wages relative to 1928, but the relationship between steel prices and wages was restored to the level of such a distant year as 1930.

The new and much higher position of the coal price relative to the steel price was probably due to the relatively higher production costs, caused by the still high proportion of labor in the total production costs of coal. The policy of keeping coal prices relatively higher than steel prices had indeed been embarked upon as early as 1939. But even the new steel prices were high relative to the prices of products produced from it. The policy of assuring industry of very cheap raw materials of industrial origin, mainly coal and steel, pursued in the early years of the Plan era and proclaimed as subject to elimination in 1936, seems to have been not only ultimately abandoned but indeed reversed. In 1931–35 the price indexes of *all* producers' goods (1926–27 = 100) were quite substantially above those of steel and coal. From April 1, 1936 through 1948, the indexes of coal and steel prices ran about parallel to those of all producers' goods. In 1949, coal became much more expensive than all producers' goods (tax-free basis), and even steel prices seem to have become relatively higher.[45] The change was even more pronounced if the course of coal and steel prices is compared specifically with that of machinery prices.

Unfortunately, only scattered data are available on the reductions in prices of producers' goods effective January 1, 1950 and July 1, 1950, but they are more than adequate for the conclusion that the 1949 price raise was a blunder. The prices of machinery, after having been raised by 30–35 percent in 1949, were restored to the 1948 level on January 1, 1950; six months later they were lowered still more—to a level little more than 90 percent of that in 1948. Because they are of particular interest, the official coefficients for recalculating machinery prices for use in estimates of construction projects in recent years are here reproduced. The

44 See for example the leader in *Planned Economy*, 1950, No. 6, p. 5.
45 Jasny, *Soviet Prices of Producers' Goods*, table in chapter i.

data show the rough average multiplier from the price of one year or shorter period to that of another year or period:

From 1945 prices to 1949 prices	1.35–1.40
From 1949 prices to prices in 1st half of 1950	0.74
From 1945 prices to prices in 1st half of 1950	1.03
From prices in 1st half of 1950 to prices in 2d half of 1950.	0.92
From 1945 prices to prices in 2d half of 1950	0.95

Based on *Collection of Principal Materials and Consultations on Construction*, 1950, No. 6, pp. 27–30, and No. 9, p. 7.

After all the more or less drastic changes, they finished up in the second half of 1950 with prices 5 percent below those of 1945. While the ultimate result of the price reductions of the other producers' goods was not so peculiar as for machinery, the cuts in prices in 1950 were greatly in excess of the reductions in production costs attainable during one year. Actually, all or, in any case, most of the price reductions were made in view of the great excessiveness of the 1949 raises.

One feature of the 1950 price revisions that greatly surprised the present writer was the fact that the price of coal was left at the high level established in 1949—about 11-fold that of 1926–27.[46] The prices of all or, at least, most other producers' goods were reduced, effective January 1, 1950 or July 1, 1950 or, in some cases, on both dates. Maizenberg gave more or less exact data on percentage reductions only for the following items:

Pig iron	20
Common steel	37–47
Iron and steel pipes and gas containers	15–50
Timber	10
Products of the chemical and rubber industries	over 20
Cement	20
Gasoline	20

Data from Maizenberg, "The System of Wholesale Prices and the Strengthening of Khozraschet," *Planned Economy*, 1950, No. 6, p. 59.

With these reductions, the price increases of certain grades of steel over 1926–27 became considerably less than half of that for coal. A cut of as much as 47 percent in the price of any steel (the figure probably applied to construction steel), in peacetime, is anything but good planning. Maizenberg did not include kero-

[46] Maizenberg, *op. cit.*, p. 61. The coal price of the Moscow Basin was, however, reduced no less than 25 percent, effective January 1, 1950. As if this were not enough, the railway freight rate on this coal was cut in half (*ibid.*).

sene among the items reduced. If its price (as motor fuel) was not cut while that of gasoline was, the relationship between the two was again changed to the disadvantage of agriculture, which uses a great deal of kerosene but little gasoline. Many more such discrepancies were apparently brought about by the revisions of the prices of producers' goods in 1950.

These observations on the price discrepancies among individual producers' goods show clearly that, if Soviet planning is improving, this is a very slow process. Although the Soviets would like very much to base the distribution of goods not only on allocation (allocation is almost the exclusive means for distributing producers' goods and plays a great role also in wholesale distribution of consumers' goods), but on a well tied-in price system, they have accomplished little in this respect. However, the effect of this shortcoming, which would have destroyed a private economy, has been far less damaging under Soviet conditions.

DISTINCTION BETWEEN PRODUCERS' AND CONSUMERS' GOODS

The two features of the Soviet price system dealt with in this and the following section may be of less importance than those already discussed, but they cannot be ignored if a rounded picture is to be given.

The demarcation line between producers' goods and consumers' goods seems not to be uniform so far as prices set for the various commodities are concerned. Food and, apparently, certain nonfood items are sold at the usual high prices of consumers' goods even, for example, to factory canteens.[47] But the same factories buy "occupational" clothing at prices much lower than those for clothing in the "broad market." (It is to be assumed that little clothing of this type is sold to private persons.)

A long list of prices of occupational clothing, effective January 1, 1941, is available.[48] The prices were established at various dates from December 22, 1936 to July 5, 1940,[49] and this obviously affected their level. There is apparently no doubt that occu-

[47] The only privilege these canteens enjoy with reference to turnover taxes is apparently that they do not pay taxes on their own processing.

[48] Leningrad-Oblast Planning Commission, *Reference Book of Prices of Building Materials, Equipment, and Transport*, No. 34 (Leningrad, 1941), pp. 434–45.

[49] *Ibid.*, pp. 631–32.

pational clothing was, in general, substantially cheaper than comparable civilian goods, though comparison of the prices of occupational clothing with the known prices of consumers' goods is made difficult by differences in the goods. Only in exceptional cases can the lower prices of occupational clothing be ascribed to the smaller trade margin. The cheapening of occupational clothing was probably attained primarily by reducing turnover taxes. The fact that the prices were approved over a period of 3–5 years, a period, moreover, when the levying of turnover taxes had passed the experimental stage, would suggest that the lower prices of occupational clothing have become a permanent institution. However, it is not known whether the system is still in force.[50]

Let us make a few comparisons. The cited list of occupational clothing included a cheap kind of cotton jacket without lining at 17.50 rubles and a similar suit at 34 rubles; a jacket of tarpaulin cost 25–36 rubles. All these prices were approved on January 5, 1939. They were very low compared with 3.50 rubles per meter of calico, 7.50 rubles per meter of satinette, or 65 rubles for a man's cotton shirt, reported from Moscow as effective on July 1, 1939.[51] A kind of woolen work suit was listed at 74 rubles among other occcupational clothing, likewise approved on January 1, 1939. However primitive the suit may have been, its price was very low as compared with the price of 150 rubles for a woolen sweater or 210 rubles per meter of light woolen cloth that the general population had to pay at that time.

Similarly, the prices of leather work shoes established on July 5, 1940, i.e., simultaneously with the new high prices of civilian shoes, seem to have been no more than half the prices of the latter. However, the price of ordinary rubbers in the list of occupational clothing seems to have been below the price of the ordinary civilian rubbers only by the difference in the trade margin—probably because it was impossible to differentiate the two types of goods. But the occupational-clothing list included rubber boots for miners and similar workers at 24 rubles, while the private consumer had to pay 25 rubles for the usual galoshes.

The prices of building materials are low when those goods

50 A possible indication that this preference was abolished is the fact that the 1947 edition (No. 35) of the reference book cited above contains no list of prices of occupational clothing.

51 *Monthly Labor Review* (U.S. Dept. Labor), November 1939, XLIX, 1278.

are sold to state enterprises and high when sold on the "broad market," although the goods can only be used as producers' goods by all kinds of consumers. Below is a comparison of certain prices in effect on January 1, 1941 (in rubles):

Item	Wholesale prices to state enterprises	Retail prices on the "broad market"
Nails, common (per kilogram)	0.59	6.00
Nails, roofing (per kilogram)	0.65–0.675	8.00–8.50
Cement (per kilogram)	0.08	0.40–0.45
Bricks (per 1,000 units)	128.00	200.00–230.00
Tar paper (per roll)	9.50–11.50	23.00–28.00
Roofing sheet iron, 3d grade (per kilogram)	0.65–0.80	1.90–2.35

Data from *Reference Book of Prices of Building Materials, Equipment and Transport*, No. 34, pp. 12, 13, 20, 101, 115, 116, 458–61.

Thus, occupational clothing is treated as producers' goods, while building materials sold to the population are treated as consumers' goods. But food commands high prices from all buyers.

THE SCATTER

As we have seen, the development of prices since 1926–27 presents a fanlike appearance (see chart, p. 17). Although there are two centers around which the prices of most goods cluster, and the two centers stand out prominently, exceptions are noteworthy with reference to prices both of producers' and of consumers' goods. When the Soviet government wants to encourage or discourage utilization of a certain goods, it does not bother with "trifling" measures which under the same conditions may be regarded as acceptable in the capitalist world; instead, it alters the price drastically. Absence of an interest charge on the fixed capital and on most of the variable (working) capital in the USSR, and only a moderate charge for the use of oil land (see p. 69), made petroleum products cheap relative to other fuels. In the early years after the Revolution, the government was satisfied to set the prices of these products so that they yielded a good profit, while coal was a losing enterprise. Later, the idea occurred to those in power that according to the Marxist theory only the "absolute" and not the differential land rent was a specifically bourgeois phenomenon. In actual practice they went far beyond any differential

rent, in one sweep jumping the price of kerosene, the principal motor fuel in the USSR, by about 1,000 percent.[52]

Very high prices are in force on varnish also.[53] Other examples of departures from the low center of prices of producers' goods, although relatively moderate ones, can be observed with reference to certain goods processed from agricultural products, such as sacks and rope. The higher prices for these goods resulted from the relatively high prices the state had to pay to farm producers for the raw materials (see pp. 49–50). But the great shortage of some materials, such as hemp and leather, also made it advisable to discourage by higher prices the use of goods made from these materials.

With reference to consumers' goods the former policy of pre-Plan and early Plan years, of insuring the consumers of a few necessities at reasonable prices, was completely reversed. Not only did all consumers' goods become very expensive, but products of the grimmest necessity became relatively the most expensive. The prices of all grain products were made higher than the weighted prices of all consumers' goods, and the price of the cheapest bread (common rye) became relatively the highest. Vegetable oil, the cheapest form of fat, increased in price more than any other commodity, and salted herring, the cheapest form of animal protein, also is among goods with the greatest price rises. In the case of salt, the price was raised considerably more for the less expensive product in bulk than for that in packages.

Clearly reflected in the policy with reference to prices of consumers' goods is the desire to discourage consumption of goods processed from farm products more than consumption of goods made of other materials, notably steel. In any case automobiles, accessible to very few in the Soviet Union, are relatively the cheapest consumers' goods there. In mid-1948, the equivalent of the car "Moskvich" was 310 pounds of butter,[54] while in the United States a somewhat better car was worth about as much as

52 Order of June 29, 1933; see Jasny, *The Socialized Agriculture of the USSR*, p. 464. The price of gasoline, already rather heavily taxed, was raised more than 3-fold on this occasion.

53 The reason must lie in the scarcity of fat. It may have been desired to discourage the use of genuine varnish for technical purposes, owing to the great shortage of all kinds of fat for human consumption. But the high price on varnish may have been established also in order to prevent use of its fat content for food, all food fats being priced very high.

54 The car cost 9,000 rubles; butter was 62–66 rubles per kilogram depending on the region.

1,750 pounds of butter.[55] Phonographs, radio sets, and similar goods also were cheap as compared with items of the most primary necessity.

Thus the departures of the prices from their base in 1926–27 are wide even within each of the two groups of goods, and there is some overlapping of the prices of goods in one group with those in the other group. The chart on page 17 does not clearly reveal all these things, owing to the absence of prices for many goods.

55 The "Moskvich" was apparently copied from the German "Opel," a very light car. The price of the British "Austin" was used for the comparison.

CHAPTER III

CURRENT PRICES: FARM PRICES; OTHER TOPICS

FARM PRICES

The Soviet policy concerning prices paid to the producers of farm products reminds one of a rather common situation observed during wars: agricultural producers are obligated to deliver all or part of their marketable produce to the government at fixed and relatively low prices, and they sell the remainder, if any, on black or gray markets at much higher prices. The Soviet system of farm prices is similar but with important peculiarities: the multiplicity of prices is permanent rather than temporary; there are three rather than two sets of prices; the obligatory deliveries are not fully based on available marketable surpluses in the hands of producers; the place of the black or gray markets is taken by a fully legalized institution; the difference between the two principal sets of prices, even in peacetime, far exceeds the spread observed in many other countries during wars.

TECHNIQUES

The state takes from the farm producers[1] part or all of their output of a certain product as obligatory deliveries or as deliveries on the likewise obligatory kontraktatsiya; the technical differences between them are irrelevant here.[2] The remuneration varies from token prices to prices more or less in line with wages; some of the prices may be even relatively higher than the wage level, especially at the time of establishment.[3] Simultaneously the pro-

[1] The farm producers discussed here do not include the sovkhozy (state farms). These farms deliver all of their surpluses to the state but receive higher prices than the other producers. Moreover, the sovkhozy are state institutions, and the state has to shoulder their costs in one way or another.

[2] Kontraktatsiya is the compulsory signing of an advance contract to deliver to the state after harvest the amount of produce specified by the state plan at prices set by the state. In a similar way contracts for delivery of offspring of livestock are made. Kontraktatsiya is discussed in Jasny, *The Socialized Agriculture of the USSR*, pp. 722–23.

[3] The prices paid by the government for the deliveries are changed only at great intervals; some, as for example those of the all-important grain, have remained practically unchanged since 1928–29, while wages rose steadily up to the most recent years.

ducers receive in the kolkhoz markets prices on the whole even higher than the high consumers' prices in government stores (see p. 33). The third type of transaction, intermediate as to price between obligatory deliveries or kontraktatsiya and the kolkhoz markets, is the so-called purchases of the government.[4] The prices paid on these purchases vary greatly, from only a little higher to much higher than those paid on obligatory deliveries and kontraktatsiya. The sales are supposed to be voluntary, but frequently the volition is of the Soviet pattern. The fact that the sellers are offered such inducements as permission to purchase limited amounts of goods not otherwise obtainable does not essentially alter the frequently compulsory nature of the sales.

Only producers, i.e., kolkhozy, kolkhozniki, individual peasants, workers, and employees, are permitted to sell in the kolkhoz markets. Private traders are forbidden.[5] Sales are at free prices (officially "at prices as they form in the market"). Transactions are limited to the sellers' own produce; in the case of the kolkhozniki, this includes the produce received by them from their kolkhozy as payment in kind. Sales are supposed to take place in special markets designated as kolkhoz markets, but sales in the villages, including the homes of the sellers, have the same status; the peasants even deliver milk to the homes of consumers. For years nobody but the actual consumer was allowed to buy in the kolkhoz markets. An order of November 9, 1946, however, permitted consumers' co-operatives to buy from the producers—apparently also in kolkhoz markets—at free prices, with the limitation that their selling prices must not be any higher than those in state "commercial" stores.[6] Producers' returns from the sales to co-operatives are likely to be even higher than from the sales directly to consumers, because the co-operatives can ship from low-price to high-price areas, an opportunity of which the producers can directly avail themselves only to a negligible

[4] For many years prior to 1949, still another form of procurements had existed—the so-called decentralized procurements of various government agencies for their own needs, at prices the upper limit of which was established by the government. The setup of the decentralized procurements did not differ substantially from that of government purchases. F. Ya. Oblovatskii (*Economics and Planning of Soviet Trade*, Moscow, 1949, p. 108) still mentioned them. But according to N. P. Titelbaum (*Statistics of Socialized Feeding*, Moscow, 1949, p. 91), they were abolished in 1948. Oblovatskii's book is the more recent.

[5] The law also prohibits sales by "kulaks," but these have long since disappeared.

[6] After the abolition of "commercial" stores late in 1947, their place in the meaning of the law was apparently taken by the regular state stores.

extent. Both in the case of sales in kolkhoz markets and purchases by consumers' co-operatives, certain provisions exist that they do not interfere with obligatory deliveries.[6a]

DELIVERY PRICES OF INDIVIDUAL PRODUCTS

The policy with reference to individual farm products obtained by the state on obligatory deliveries and kontraktatsiya is in general such that the prices are lower the smaller the portion of the total product to be delivered. If the total product or its total marketable portion is demanded, the prices tend to be higher the greater the share of the particular enterprise in the whole economy of the producers. The idea behind this differentiation is that the receipts for products deliverable only in part do not need to cover costs. The producers may be in position to make up for the losses, fully or in part, by selling in the kolkhoz markets. With reference to products deliverable in full, and especially those which are the principal enterprises of specific farms, the price paid has to cover the costs, in the first instance the labor cost, at least at the lowest level.

The prices paid for grain are relatively the lowest. The only general increase in grain prices since 1928–29, that of 1935, amounted to only 10 percent. With the prices in the kolkhoz markets and those at which the state sells grain products continually soaring, the margin between them and the prices paid to producers for the grain obligatorily delivered finally became almost incredibly large. It is rarely realized that in 1948, for example, the producers received around 10 kopeks for a kilogram of wheat obligatorily delivered, or, say, 30 percent more than in 1926–27, while wages were perhaps 1,000 percent higher and the government sold wheat flour (at retail) at 8 rubles—almost 40 times the price in 1926–27. In the kolkhoz markets the wheat probably had a value of about 5 rubles. The fixed price for obligatory deliveries of oats was around 7 kopeks per kilogram, while the state resold it (at retail) at 250 kopeks in 1948.

At first glance it may seem that the obligatory deliveries of grain are not unduly harsh, amounting to only about 20 percent of the total output. But it is not correct to compare deliveries with total output, since out of this must come seed, payment to the state-

[6a] For recent changes in decentralized procurements and purchases by co-operatives, see G. L. Rubinstein *et al.*, *Economics of Soviet Trade* (Moscow, 1950), pp. 214–16.

owned MTS for their work, and feed for the work stock as well as the productive livestock, also deliverable to the state. The obligatory deliveries of grain must be related to a total composed of these deliveries, quantities otherwise delivered or sold, and quantities available for distribution to the kolkhoz members. Of this total, obligatory deliveries may well make up nearly one-half.

The prices paid for obligatory deliveries of potatoes, sunflower seed, hay, and a number of other products, deliverable only in part, are more or less in line with those paid for grain. The margins between these prices and those realized in kolkhoz markets and by the state are correspondingly huge.

Except for certain minor products such as kok-sagyz (a rubber plant), the farm product that brings the highest price from the state is cotton, which is deliverable in full.[7] The last revision of the cotton price was effective after the 1948 crop. The new price was apparently not stated publicly. The present writer would not be surprised if it turns out that, in the form of money and supplies of bread grain at preferential prices, the cotton producers are receiving more than 12-fold, perhaps even 15-fold, the 1926–27 price.[8] The prices paid by the state for sugar beets and flax—crops very important to their producers but less important than cotton is to cotton producers[9]—occupy an intermediate position between the grain and the cotton prices.

The higher, sometimes considerably higher, prices paid for fibers, including wool, and some other minor technical crops, weigh much more heavily in raising the average returns for all takings by the state in the way of compulsory deliveries and kontraktatsiya than may seem likely on the basis of the share of these crops in total crop output, and even in the smaller volume available for sale and consumption in the farm homes. In 1938, for

[7] Except for the quantities supplied, though again to the state, as payment for the services of the MTS.

[8] The 1935 prices of cotton delivered on kontraktatsiya in force before the 1948 revision were more than 4-fold those of 1926–27; the large premiums for production in excess of plan were in addition, amounting to about 25 percent of the base price. The prices seem to have been doubled in 1948. The premiums which were in percentage of existing prices were preserved in full (on the premiums see "Law Consultation," *Socialist Agriculture*, Mar. 30, 1949). But contrary to the preceding practice, when many products were sold to the cotton growers at low prices by the state, now such sales apparently occur at regular prices, except for grain which is delivered at "reduced" prices (*idem*; the source refrained from stating the prices themselves).

[9] Sugar beets have to be delivered in full, and flax in a high proportion; but these crops occupy a much smaller proportion of the total acreage of the respective producers than cotton.

example, the value of the technical crops and wool may have represented roughly 15 percent of the gross output of the kolkhozy computed at 1926–27 prices and roughly 25 percent of their volume available for sale and for consumption on the farms, but it may well have amounted to perhaps one-third of the value of products delivered by the kolkhozy to the state on obligatory deliveries and kontraktatsiya.

There is little need to apply a concept developed for non-Soviet economies to the obligatory deliveries and the prices paid for them in the Soviet economy. Dobb attempts to interpret the deliveries "as an instrument for skimming part of the differential rent of land which would otherwise have been retained by the more favorably situated farms."[10] It is to be granted that a certain differentiation exists between the rates of obligatory deliveries and kontraktatsiya (the latter so far as only part of the output has to be delivered). But it certainly is news that the obligatory deliveries to the state are limited to "the more favorably situated farms." To adduce the idea of differential rent, i.e., a form of income believed justifiable under a capitalist setup, does not make morally justifiable the obligatory deliveries and the prices paid for them in the USSR. First, most of the agricultural land already belonged to the peasants at the time of the Revolution; the rest was made theirs by the Revolution. Hence the differential rent, if any, is also legitimately theirs. Second, in areas with "the more favorably situated farms," this factor is offset by the normally smaller amount of land available per peasant family. To pay a higher rent per acre of better land would be a hardship under these conditions. The fact cannot be talked away that for their participation in the Revolution the peasants were promised the possession of the small amount of agricultural land still in the hands of landlords and other large owners before the Revolution, while the result has been the loss of all their own land.

An official source stated that the government paid the same price for milk on "voluntary" sales as on obligatory deliveries,[11] and that "voluntary" sale prices were only moderately higher than delivery prices on grain and some other products, but were

10 Maurice Dobb, *Soviet Economic Development since 1917* (London, 1948), p. 284.

11 V. A. Kovylin and I. A. Chistov, *Turnover Tax* (USSR, Ministry of Finance Publishing Office, Moscow, 1946), p. 34.

much higher (probably several times higher) on meat[12] and some other products.

The table on page 52 presents the prices stated in another source—a strictly technical book intended specifically for tax collectors—as the prices realized by a sample kolkhoz. The prices were used for the computation of the relationships presented on page 35, above. Although the prices were described as arbitrary by the author, the present writer was fortunate to encounter them, "arbitrary" or not.

RECEIPTS OF THE PRODUCERS

As has been shown, the prices paid for many farm products under obligatory delivery are tantamount to confiscation. Prices in the kolkhoz markets, on the other hand, reflect the high turnover taxes in full and—for long periods—the disorganization of the Soviet markets as well. To permit the farm producers to sell their produce in kolkhoz markets without the obligation to collect the turnover taxes for the state, at prices which may be higher than those charged by the state and co-operative stores (whose prices represent, in large part, turnover tax), is equivalent to permitting the farm producers to pocket the turnover tax imposed on the specific product. One is fully justified in perceiving quasi turnover taxes in a large portion of the prices realized in the kolkhoz markets. The same is true of purchases by the co-operatives in kolkhoz markets and the sale of this produce at free prices in accordance with the law of November 9, 1946. Here, too, the producers are the recipients of the quasi turnover taxes.[13]

What really matters from the viewpoint of the producers is their total income and not the confiscation or near-confiscation on the one hand and the permission to realize sums having the character of turnover taxes on the other hand. The weighted average price obtained for their products is important. The sales in kolkhoz markets are quite substantial even in relation to total marketings, of which they accounted for 24.7 percent in 1938.[14] But

12 *Ibid.*, p. 33.

13 This is one of the complicating factors in eliminating the proceeds of turnover taxes from national income and similar items; on this see pp. 150–51.

14 The responsibility for the figure rests entirely on official shoulders; see Jasny, *The Socialized Agriculture of the USSR*, pp. 46, 384–85. While no official data are available, evidence points to a substantial decline of the share of kolkhoz markets in total marketings in postwar years.

PRICES AS REALIZED BY A SAMPLE KOLKHOZ, PROBABLY IN 1947, WITH COMPARISONS*
(*Rubles*)

Item	Obligatory deliveries	Government purchases	Kolkhoz markets	Average 1926–27[a]
Crops (per quintal):				
Wheat	10	...	...	6.53
Rye	8	...	...	4.46
Barley	8	9.50	...	3.42
Oats	7	...	...	4.15
Dry legumes, edible	15	...	...	6.29[b]
Vetch	10	...	...	...
Sunflower seed	20	...	...	6.65
Potatoes	3.5	11	150	2.50
Cabbage	12	15	250	6.05
Cucumbers	15	18	500	5.93
Carrots	8	10	300	2.30
Beets	10	11	200	
Pumpkin	...	25	...	
Hay, tame	7	16	...	5.00
Hay, wild	4	...	...	2.50
Grass seed	400	...	...	...
Straw	2	...	...	1.26
Chaff	15	...	...	2.12
Apples	50	...	500	...
Cherries	100	...	...	...
Livestock (per unit):				
Cows	...	...	1,500	...
Other cattle	38.7	196	...	...
Hogs	49.6	...	150[c]	...
Sheep and goats	7.7	...	...	...
Meat (per kilogram):				
Beef and pork	...	...	25	0.42
Lamb	...	...	20	
Hides (per unit):				
Large	3	...	...	...
Sheep and goat	2.50	...	...	...
Hog	3.0	...	...	...
Milk (per liter)	0.25	0.50	5.0	0.06
Butter (per kilogram)	5	10	75	...
Wool (per kilogram)	6	...	...	1.08

* Dankov, *On Income Tax on Kolkhozy*, pp. 57, 64–65, 67, 70–71. The book has for subscript in its title, "To Help the Raion Financial Officer."

[a] The average 1926–27 prices are from *Control Figures of the National Economy USSR for 1929–30*, pp. 581–82. [b] Peas. [c] Certainly piglets.

the deliveries of the state farms as well as the supplies turned over by the kolkhozy for the services of the MTS, though part of the total marketings, are irrelevant to the problem here discussed. To marketings excluding these, the sales in kolkhoz markets contributed more than one-third in 1938. Owing to the high prices in kolkhoz markets, such a proportion attributable to the sales of the kolkhozy, kolkhozniki, and private individual producers raises the average prices realized for all their sales substantially above the prices paid on obligatory deliveries and kontraktatsiya. Indeed, it can impart to the receipts quite another character. There are, however, great variations in the realized weighted average prices depending on the product, type of producer (kolkhoz, kolkhozniki, or individual peasant), and area.

The proportion of sales in kolkhoz markets to total marketings of products not deliverable to the state in full varies greatly from one product to another. Before the war, grain showed about the smallest percentage, and eggs, vegetables, and fruits the highest.[15] Sales of grain in kolkhoz markets are unlikely to have raised the weighted prices obtained by the kolkhozy, kolkhozniki, and individual peasants for all their sales of grain in, say, 1940 to more than 50 percent above the prices paid on obligatory deliveries. In 1948 the weighted grain prices received for all sales may have been double the prices on obligatory deliveries.[16] Increases of such proportions obviously do not deprive the prices obtained by the peasants for their grain of their almost nominal nature. The situation is much more favorable for the producers with reference to animal products, fruits, and vegetables.

15 Data on the composition of the turnover in kolkhoz markets by kind seem not to be available after 1934. The following evidence is at hand for 1933 and 1934 (in percentage of total marketings):

Item	1933	1934
Grain	9.8	5.3
Potatoes	20.0	22.0
Vegetables	27.0	30.0
Milk and dairy products	29.0	32.0

See Neiman, *Internal Trade of the USSR*, pp. 249–50. Something seems to be wrong with a corresponding statement of the Gosplan (*National-Economic Plan for 1935*, 2d ed., Moscow, 1935, p. 369) expressed in quantities. For 1934 it gives the turnover of grain in kolkhoz markets as 320 million poods or 5.25 million tons. On the basis of Neiman's percentage this indicates total marketings of about 100 million tons, or more than the whole grain crop. After 1934 the share of sales of grain and grain products in kolkhoz markets in total marketings declined sharply.

16 Dankov, whose arbitrary prices were reproduced in the table on page 52, provides for no sales of grain or grain products in the kolkhoz markets by his sample kolkhoz (*op. cit.*, pp. 44–47).

Let us turn to the variations in the weighted average prices received by *the different groups of producers*. The average price obtained for obligatory deliveries and kontraktatsiya is higher for the kolkhozy than for the kolkhozniki, owing to the large proportion of the relatively better-paid-for products in their deliveries. The kolkhozniki, however, while delivering to the state almost exclusively poorly-paid-for products, sell a great deal in the kolkhoz markets. The weighted prices obtained by them are, therefore, correspondingly high (relatively).

The total receipts of the kolkhozy from the sale of their farm products were 13,865 million rubles in 1938, of which 10,162 million rubles were from the sale of crops and 3,703 million rubles were from the sale of animal products.[17] Their proceeds from the sales in kolkhoz markets may have been equivalent to about 4,100 million rubles,[18] so that obligatory deliveries, kontraktatsiya, and decentralized procurements brought in 9.8 billion rubles. The value of these products at 1926–27 prices was probably not much above 3 billion rubles; hence the average prices received for them were around 3-fold those of 1926–27. If it is assumed that the same total plus the amounts sold by the kolkhozy in the kolkhoz markets were worth 4 billion rubles at 1926–27 prices, the average prices received by them for all sales including obligatory deliveries, etc., were about 3.5 times as high as those of 1926–27.

In another place the 1938 obligatory deliveries (including kontraktatsiya) of the kolkhozniki were estimated at 420 million rubles at 1926–27 prices.[19] This estimate must be raised to around 500 million rubles if the deliveries of the individual peasants are to be included. The return at current prices is unknown, but may be estimated at 1 billion rubles. After deducting from the total turnover of 24.4 billion rubles in kolkhoz markets the sales of the kolkhozy (4.1 billion rubles), 20.3 billion rubles worth of sales is left for the other sellers. The purchases of the peasants themselves in those markets may be put down at 5.6 billion rubles.[20] Sales in the kolkhoz markets by the urban popula-

17 Official data; see Jasny, *op. cit.*, p. 686.

18 The total kolkhoz trade amounted to 24.4 billion rubles in 1938. The share of the kolkhozy in this total was 16.7 percent. See P. Kagarlitskii, "On Kolkhoz Market Trade," *Problems of Economics* (Moscow), 1940, No. 3, p. 95.

19 Jasny, *op. cit.*, p. 698.

20 The writer had to estimate this figure by applying the percentage of peasants' purchases

tion (persons with farm pursuits) may have amounted to 1 billion rubles.[21] Hence the remainder, i.e., the sales of the kolkhozniki and individual peasants in kolkhoz markets to nonpeasants, was around 13–14 billion rubles, or say 1.6 billion rubles at 1926–27 prices, and their total sales (including obligatory deliveries and kontraktatsiya) were about 14–15 billion rubles, equivalent to about 2.1 billion rubles at 1926–27 prices. Thus the weighted prices received by the kolkhozniki and individual peasants for all their sales were about 6.5 times as high as the 1926–27 prices.

The preceding computations involve a great deal of estimating. Except for the money incomes of the kolkhozy—an official figure—nothing is known for sure, yet the order of magnitude is probably preserved. The estimates of the 1938 receipts by the various producers' groups are recapitulated below for what they are worth (in billion rubles and, except for two items, rounded to billions):

Group	Values actually received	Values at 1926–27 prices
Kolkhozy:		
Obligatory deliveries, kontraktatsiya, decentralized procurements	9.8	3+
Kolkhoz markets	4.1	0.5
Total	13.9	up to 4.0
Kolkhozniki (including individual peasants):		
Obligatory deliveries and kontraktatsiya	1	0.5
Kolkhoz markets	13–14	1.6
Total	14–15	2.1
Grand total	28–29	6.0[a]

[a] Rounded. Six billion rubles' worth of total net sales by the kolkhozy, kolkhozniki, and individual peasants at 1926–27 prices in 1938 is not unreasonable. The total volume available for sale and the consumption in the farm home was around 10.5 billion at those prices in 1938 (in Jasny, *The Socialized Agriculture of the USSR*, p. 701, the 1938 national income from agriculture was estimated at 8.5 billion rubles; deductions for nonagricultural materials and depreciation amounted to about 2 billion rubles). The deliveries for the services of the MTS and those of the sovkhozy may have amounted to 2.0 billion rubles. The remainder, 2.5 billion rubles, represents the consumption by the farm producers of their own product (including the feeding by the kolkhozy) and the net output of the workers and employees.

to total turnover in the kolkhoz markets in an exemplary setup by N. S. Margolin, *Problems of Balance of Money Incomes and Expenditures of the Population* (Moscow and Leningrad, 1939), pp. 128–35. Later Margolin reproduced the same data, although he had actual 1938 data at hand. See his *Balance of Money Incomes and Expenditures of the Population* (Moscow, 1940), pp. 114–21.

[21] Computed on the same basis as the sales to peasants (see preceding note).

Thus even the weighted prices received by the kolkhozniki for the compulsory deliveries and kontraktatsiya, which were the lowest among those received by any group of producers for any group of sales, were not lower, relative to the 1926–27 prices, than the prices of producers' goods, the latter having risen around 100 percent from 1926–27 to 1938.[22] The weighted average prices received by the kolkhozy for all sales including deliveries were about 3.5-fold those of 1926–27, while for the kolkhozniki (including the individual peasants) they were 6.5-fold. For all analyzed sales the realized prices were about 4.25-fold the 1926–27 level.

It would be wrong to see any favoritism in the fact that the average prices received by the kolkhozy for all their sales were higher than the state prices of producers' goods, and that even the weighted prices paid to them by the state were relatively higher than these. The kolkhozy obtain certain producers' goods, such as fertilizer, simple implements, and possibly building materials at the low producers'-goods prices, but otherwise their expenses are greatly inflated. About half of the money income of the kolkhozy goes to the kolkhozniki as payment for their labor, and the kolkhozniki in spending the receipts have to pay the high prices of consumers' goods.[23] Producers' goods, however, are favored by the practical absence of interest and rent charges, and for long periods of time the state enterprises producing them have been generously subsidized from the treasury, while the kolkhozy have to stand on their own feet.

There is, of course, not the slightest reason to relate the prices received by the kolkhozniki to the prices of producers' goods, even if the turnover taxes were not excluded from these. The expenses of the kolkhozniki on materials and depreciation are almost negligible; what they get is remuneration for their labor. They would be fully entitled to get for the goods they sell prices on a par with the prices of consumers' goods. The prices they actually get, however, reach this level, or possibly exceed it, only for that portion which is sold in kolkhoz markets.

Since the wages paid to the wage earners are likewise not on

22 Wholesale prices to government agencies, net of turnover tax, rose about 80 percent, and the difference between the rise in tax-free and non-tax-free prices was not large, so far as producers' goods are concerned.

23 See analysis of kolkhoz expenses in Jasny, *op. cit.*, pp. 683–705.

a par with the prices of consumers' goods, comparisons are of interest between the rates of increase in average prices realized by the farm producers and the rate of increase in wages. If the computations summarized in the tabulation on page 55 are correct, the average prices received by the kolkhozniki for the products delivered and sold by them appear moderately higher (relatively) than wages. Prices increased about 6.5-fold, wages only 5.5-fold.

The incomes of the peasants of course depend not only on the prices they realize on their sales, but also on the *total amount* of goods which they have for sale and their own consumption. The most significant change in peasant incomes during the Plan era was the great decline in the consumption of their own produce. The data used above suggest that around 1938 per capita incomes of the kolkhoz and individual peasants from agriculture were 30 percent or more below those of around 1928.

The price relationships involving kolkhozy and kolkhozniki, described thus far, pertained only to 1938. In 1937 the kolkhozniki probably realized lower average prices for all their deliveries and sales than in 1938—roughly to the extent that wages were lower—but their total incomes were higher. The situation prior to 1937, especially before the abolition of rationing in 1935, would need special analysis. The analysis of developments in 1939 and 1940 is handicapped by uncertainty as to the turnover in kolkhoz markets, officially stated as follows (in billion rubles):

1938	24.4
1939	30.9
1940	41.2

Data from Lifits, *Soviet Trade*, p. 33.

Territorial expansion is unlikely to have affected the 1939 figure. The increase from 1938 to 1939 may have been due both to greater amounts and higher prices, but the kolkhozniki probably did not have a share in the enlarged amounts. The prices paid to them on obligatory deliveries remained unchanged, then and in succeeding years. All in all, the average prices realized by the kolkhozniki for all deliveries and sales may not have kept pace with the increase in wages. The big jump in kolkhoz-market turnover in 1940 must have been primarily the result of higher

prices; enlargement in physical terms probably occurred only in so far as a greater territory was covered and was secondary in any event. The average prices realized by the kolkhozniki in 1940 certainly exceeded those of 1939 by a greater percentage than wages increased during that year. Furthermore, the kolkhozniki, who cover part of their requirements from resources in kind, were probably harmed less by the considerable increases in the prices of consumers' goods which occurred during 1940 than were wage earners.

War brought fantastic prices to the kolkhoz markets. To what extent the weighted prices received by farm producers were boosted by this increase, it is impossible to say. The weighted prices received by the kolkhozniki must have increased over prewar much more than did nominal wages.

Although the money incomes of the kolkhozniki increased greatly, the increase meant little in the absence of anything that could be bought for money. The main worry of the kolkhozniki was the considerable curtailment of distributions in kind by the kolkhozy and the decline in their own output.

The end of rationing at the close of 1947 brought the prices in kolkhoz markets down to approximately the level of those in state and co-operative trade, i.e., to a level perhaps 2.2-fold that of 1940.[24] Wages rose less than this, but the weighted prices paid by the state on obligatory deliveries of those products which are mainly delivered by the kolkhozniki remained at the prewar level, the volume of turnover in kolkhoz markets declined, and the share of the kolkhozniki in this curtailed turnover may have declined also.

The relationship between the average prices realized by farm producers for deliveries and sales to the state, on the one hand, and the prices of industrial goods from nonfarm materials, on the other, seems to have been entirely disrupted by the great boost in the prices of producers' goods effective January 1, 1949, while the prices paid to producers were raised only for cotton, flax, sugar beets, kok-sagyz, and possibly some other technical crops.[25] As in 1938, the prices paid by the state for cotton are considerably

[24] Jasny, *The Soviet Economy during the Plan Era* (Food Research Institute, Stanford, 1951), chapter iv.

[25] The use of "possibly" in the text is due to the fact that even such activities as increases in prices paid on obligatory deliveries and kontraktatsiya are now conducted in a clandestine way.

above the new level of prices of producers' goods (in both cases relative to the 1926–27 base). But the average prices received by the kolkhozy, kolkhozniki, and individual peasants together for all deliveries and sales to the government may have fallen below that level after the 1949 price changes.

The weighted prices received by all farm producers for all their sales in recent years were substantially reduced by the repeated lowering of food prices in state and co-operative stores, a process that also reduced the prices realized in kolkhoz markets. An upward revision of the prices paid by the state for farm products whose prices were not raised in recent years seems inescapable. However, prediction is hazardous, for the habit of getting something for almost nothing seems to have become firmly fixed in the Soviet government.

It might take a lifetime to ascertain for a single decade all the changes in prices obtained by the peasants and in the quantities which they had for sale. But even if all that were done, the regional aspect would remain in the dark. The distribution of such farm products as are relatively well paid for on obligatory deliveries or kontraktatsiya is very uneven in the various territories. It is, for example, quite possible that the financial status of the kolkhoz peasants in Central Asia, which depends almost wholly on cotton, would make a relatively favorable showing.[26] The kolkhoz markets have been made into strictly local institutions by prohibiting intermediaries, except lately for the co-operatives whose efficiency has probably yet to be proved. In prewar years, at least, the prices on kolkhoz markets showed very great variations, being of course highest in areas adjacent to large cities.[27] Great variations in receipts of the farm producers are observed even in the same localities, the proportion of the produce the individual kolkhozy has for sale in the kolkhoz markets varying greatly in accordance with the ability of their managements.

PRICES REALIZED BY STATE FARMS AND MTS

Thus far only the kolkhozy, kolkhozniki, and individual peasants and other individual producers have been considered.

[26] An attempt to appraise the developments in Central Asia during the prewar part of the Plan era is Warren Wilhelm's "Soviet Central Asia: Development of a Backward Area," *Foreign Policy Reports*, Feb. 1, 1950, pp. 218–28. It does not specifically deal with developments in incomes of the rural population.

[27] Jasny, *The Socialized Agriculture of the USSR*, p. 385.

The sovkhozy naturally occupy a separate place as do the MTS, which, while not strictly producers, have farm products to sell.

According to the official commentary on turnover taxes quoted above, the sovkhozy deliver their produce to the state at the maximum prices established for the purchases by the state.[28] There is, nevertheless, no doubt that the prices received by the sovkhozy did not cover all their costs, which were high, especially on animal products. This is indicated by a comparison of the production costs of the state farms as scheduled for 1941, in the 1941 Plan, with the 1926–27 farm prices (in rubles):

Item	1926–27 prices [a]	1941 goal for sovkhoz costs [b]	1941 goals as multiples of 1926–27 prices
Grain (per quintal)	6.0[c]	22.50	3.75
Meat (per quintal)	42.1	....	....
Beef and veal	....	252	....
Pork	....	525; 537; 695[d]	....
Milk (per liter)	5.98	56; 61; 69[d]	9.3; 10.2; 11.5
Wool (per kilogram)	107.9	870	8.1

[a] *Control Figures of the National Economy USSR for 1929–30*, pp. 581–82.

[b] USSR, *State Plan of Development of National Economy of the USSR for 1941 (Supplements to the Order of SNK USSR and TsK VKP (b) No. 127 of January 17, 1941)* (no date or place of publication given); herein cited as *1941 Plan, Supplement*, p. 584.

[c] The figure in the source is 5.55 rubles; this was raised in view of the large proportion of wheat in the sovkhoz output.

[d] Different groups of sovkhozy.

While the sovkhozy were expected to produce grain in 1941 at about 3.75-fold the 1926–27 price, they were assumed to need about 10-fold the 1926–27 price as their production cost of animal products. The writer unfortunately has found no evidence on the amount of subsidies paid to the sovkhozy.

In contrast to the situation with the sovkhozy, the MTS turn over to the state the products received for their services from the kolkhozy at the same prices as are paid the kolkhozy by the state on obligatory deliveries and kontraktatsiya. But the considerably higher prices for the technical crops and wool affect the weighted average paid to the MTS substantially less than they affect the prices paid to kolkhozy, because the proportion of low-priced products, such as grain, is considerably greater in the MTS receipts from the kolkhozy than in the kolkhoz deliveries

[28] Kovylin and Chistov, *op. cit.*, pp. 6, 33, 34, and others.

directly to the state. In 1938, the obligatory deliveries of grain to the state by the kolkhozy were slightly less than their payments to the MTS (about 10 million as against 10.7 million tons), but the amounts of cotton delivered on kontraktatsiya were about five times as large as the amounts paid to the MTS. The weighted average prices of all products obtained by the state via MTS in that year were, nevertheless, probably higher, relative to 1926–27, than the wholesale prices of producers' goods (tax-free).

According to official data, the MTS received in 1938 for products turned over to the state the amazingly small sum of 1.4 billion rubles.[29] The equivalent of this sum in 1926–27 prices was somewhat below 1 billion rubles.[30] It is of interest that the expenses of the MTS amounted to 5.8 billion rubles in the same year[31]—more than 4-fold the returns. About half of the expenses of the MTS consisted of payment for fuel, almost nine-tenths of which was turnover tax. With the farm products received as payment for the services of the MTS and their expenses properly evaluated, the state at least broke even—even in 1938, a very poor year weatherwise. (The payments received by the MTS vary with the harvest.) The wisdom of the great underpricing of the goods turned over by the MTS to the state and the great overpricing of the principal material needed by the MTS is not easily perceived.

COST OF FARM PRODUCTS TO THE STATE

The preceding discussion may have unexpected features for students who tend to identify Soviet agriculture with the grain output. They might assume that the cost of agricultural raw materials to industry is, and has been throughout the Plan era, less than that of the other raw materials. The reverse was true, however, until recently.

As was shown, the weighted prices paid by the state to the kolkhozy, kolkhozniki, and the individual peasants for the delivered and purchased farm products in 1938 were about 3-fold the 1926–27 prices. While the corresponding price increase was considerably smaller than this for the MTS, it may have been

29 See A. G. Zverev, *State Budgets of the USSR, 1938–45* (Moscow, 1946), p. 41.

30 The same item was overestimated in Jasny, *The Socialized Agriculture of the USSR*, p. 293.

31 Zverev, *op. cit.*, p. 52.

somewhat larger for the sovkhozy than for the kolkhozy and peasants.[32]

Procurement costs, consisting mostly of wages, and very high costs of transportation on the road,[33] raised the cost of farm products to the state even higher than the 1926–27 price level. Owing to these two factors, even for grain the increase in the weighted prices of state procurements and purchases since 1926–27 may have been close to the increase in the prices of coal and steel.

The rise in prices of all farm products to the state, which in 1938 were substantially higher above those of producers' goods relative to 1926–27, is clearly reflected in the ever widening margin of the (tax-free) prices of producers' goods processed from farm products over the prices of all producers' goods after 1926–27.[34] The situation underwent a certain change when the prices of producers' goods, and specifically coal and steel, were raised in 1939 and 1940 respectively, while the prices paid by the state for obligatory deliveries of farm products remained unchanged. Still the weighted cost of farm products to the state was rising, because (1) the procurement costs, including those of transportation on the road, were advancing; (2) the outlay of the state on premiums for deliveries in excess of norms was increasing; and, possibly, (3) there was an increase in the prices paid to the sovkhozy. Even in 1940, the cost of all farm products to the state is unlikely to have been as low as the price level of producers' goods. While in the early postwar years the two groups of prices remained about unchanged, procurement costs of farm products certainly advanced still further and considerably.

The great price boost of producers' goods in 1949, in the face

[32] Deliveries to the state by the sovkhozy may have amounted to about 1 billion rubles at 1926–27 prices (implied in Jasny, *The Socialized Agriculture of the USSR*, pp. 263 and others). Their actual receipts that year may have been equivalent to somewhat over 3 billion rubles, calculable as follows: According to USSR Gosplan, *The Third Five-Year Plan for the Development of the National Economy of the USSR (1938–42)* [3d Plan] (Draft, Moscow, 1939, p. 88), the total value of state procurements and purchases amounted to 15.7 billion rubles in 1937. The figure was probably about the same in 1938 (see the comparison of total marketings in 1937 and 1938 in physical terms in USSR Gosplan, Central Office of National-Economic Accounting, *Socialist Agriculutre USSR, 1938*, Moscow, 1939, p. 89). The accounted-for deliveries and sales to the state other than by the sovkhozy in 1938 were 9.8 billion rubles (kolkhozy), 1.0 billion rubles (kolkhozniki and individual peasants), and 1.4 billion (MTS), or a total of 12.2 billion rubles.

[33] *1941 Plan, Supplement*, p. 585, provided 55 kopeks per quintal as the cost of receiving grain and 54.7 kopeks as the cost of selling, or a total of about 20 percent of the average 1926-27 price; the cost of storage was an extra 53 kopeks per month (about 10 percent of the average 1926–27 price) and the cost of drying, 48.4 kopeks per quintal.

[34] This point is considered in Jasny, *Soviet Prices of Producers' Goods*, chapters i and vi.

of only partial increases in delivery prices of farm products, must have brought a substantial change from the earlier situation. However high the costs connected with state procurements and purchases of farm products may be, the cost of all farm products obtained by the state may have become less (relative to 1926–27) than the prices of producers' goods.[35]

MULTIPLICITY OF PRICES

Multiplicity of prices of the same goods seems so important a feature of the Soviet price system that it may be useful to summarize cases already mentioned and supplement them with others. The three sets of prices received by the producers of farm products have already been discussed in some detail. Under normal non-Soviet conditions, the prices in government and co-operative stores would coincide with those in kolkhoz markets or vice versa, but this is not the case under the conditions of persistent "hunger" for consumers' goods prevalent in the USSR. On the contrary, government stores frequently display empty shelves and, even at times when consumers' goods are unrationed, kolkhoz-market prices exceed the fixed government prices. The consumers' co-operatives sell goods received from the state at fixed prices. The goods purchased by them directly, in accordance with the law of November 9, 1946, however, may be sold at the same or, if the supply is temporarily ample, at lower prices. Thus, as many as five price levels can be distinguished for farm products alone.

During the first half of the 'thirties, consumers' goods, including farm products, were sold by the state in the so-called "commercial" stores at varying prices depending on the type of consumers; there existed as many as 10 such classes or groups of consumers and prices. The practice was revived during World War II, though there were not as many gradations of the customers.

Certain consumers' goods cost considerably less if purchased by state enterprises for productive purposes. Producers' goods likewise have different prices for the state organizations and the "broad market" (see above, pp. 41–45).

[35] The new prices of producers' goods processed from farm products remained at a higher level than those of other producers' goods. This must imply relatively greater profits in the industries processing farm products, or higher turnover taxes on a percentage basis.

Industrial co-operatives and local governments are in certain cases permitted to sell at higher prices than those of the state enterprises. For example, prices of building materials produced by raion and co-operative enterprises are set locally not higher than 20 percent above the prices of the centralized industry.[36] Cement is excepted, while forest products enjoy even greater privileges. See the cited source for further details.[37]

In addition to legal charging of higher prices by the industrial co-operatives, much overcharging occurs illegally. There are continual complaints of such unlawful activities. Patterns of the goods produced by these organizations are changed, solely for the sake of frustrating comparability with the produce of state enterprises, and disproportionately high prices are then charged for them. This again is the result of inability of the state enterprises to supply the desired commodity either in needed amounts or in desired quality.

Another phenomenon deserves mention, although it involves costs about as much as prices. State enterprises engaged in producing building materials have never been able to provide all the materials needed by state enterprises engaged in construction, and the construction enterprises were themselves impelled to go into the production or extraction of these materials on a substantial scale. The costs involved in such output are almost always higher than the prices quoted by state enterprises for the undeliverable goods (plus freight and other handling costs). The difference is ordinarily quite large; during the war and postwar years, the excess of these costs over the prices frequently amounted to 50–100 and even 200 percent.[38] To a smaller extent the same phenomena are observed in other economic activities. State organizations, unable to obtain certain items or parts from

[36] M. N. Vintsentini, *Control of Prices on Materials and Equipment at Bill Payment* (Moscow, 1950), pp. 5–6.

[37] Another similar privilege of certain industrial co-operatives, or all such co-operatives, is that on certain goods they are burdened with lower turnover taxes than those paid by state organizations. For example, according to the law of January 4, 1941 (*Collection of Laws*, 1941, No. 2, Art. 30; see below), the turnover tax on aluminum kitchenware was 50 percent of the retail price less the retail margin if produced by state enterprises, but only 1 percent if produced by co-operative organizations. This is another case of quasi turnover taxes, similar to those involved in the sales in kolkhoz markets.

The title varies for the collection of laws, enactments, orders, etc., of the Soviet government issued periodically; for example, in 1940, it was USSR, *Collection of Decisions and Orders of the Government of the USSR* (Moscow). All editions will be cited hereinafter as *Collection of Laws*, with year, issue, and number of article.

[38] Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 210.

the state enterprises engaged in the production of these particular items, are compelled to organize their own output with costs more or less exceeding the official prices of the short supply otherwise produced.

Part of the excessive prices which the industrial co-operatives are permitted to charge, or actually charge without permission, as well as part of the additional costs in producing building materials and other goods by state organizations not primarily engaged in this output, is simply the equivalent of the subsidies granted to the state enterprises normally producing these goods (see pp. 84–92). But small-scale inexpert operation also is a factor. Such an operation is observed to an extent far exceeding its prevalence in the private economy.

There seems little need to emphasize that the multiplicity of prices is an abundant source of abuse, even of crime.[39]

EFFECTS OF THE PRICE SYSTEM

The peculiar price system (in conjunction with the wage level as the third item placed between the two widely separated price levels), which was the keystone of the Soviet economy up to 1949 and with certain modifications remains in force, cannot but have affected and must still affect the whole economic life greatly. This is obvious from the preceding analysis. Here only a few specific points will be mentioned.

1. By far the most important result of the price system is obviously the siphoning of a huge proportion of the purchasing power of the population into the budget. In 1948 the consolidated budget, i.e., the budget of the state, republics, and local governments, amounted to not less than about two-thirds the total national product or income.[40]

2. The great differences between the price levels of producers' and of consumers' goods and the level of wages mean that the

[39] A novel, "Voditeli [The Drivers]," by Anatolii Rybakov in the monthly *Oktyabr [October]*, 1950, No. 1, pp. 3–77; No. 2, pp. 28–79; and No. 3, pp. 80–124, is built around the fact that the fixed rates for transportation on the road with horses are treble those by truck. One of the "heroes" has building materials moved by truck but charges the organization he represents the rates by horses. The fact that such an operation is made the keynote of a novel suggests that it is not exceptional but common—especially under conditions where literature is made to Party order.

[40] As high a figure as 85 percent for the share of the budget in the national income has been given. The actual figure is huge and does not need exaggeration even in propaganda.

ruble has a different value for each item in the budget or elsewhere, varies with the type of owner, and the like. If measured in terms of 1926–27 prices (the standard prices of Soviet indexes), up to the start of war, the expenditures from the state budget on capital investments had the highest value, ruble for ruble, while the expenses on cultural activities, consisting largely of wages, probably had the lowest value, ruble for ruble, among the major items of the budget. Moreover, the several items of which each major item of the budget consisted had greatly different inflation ratios.[41] In 1940, for example, the price which the state-owned MTS were paying for fuel was more than 10-fold that of 1926–27, while the prices of machinery on which the depreciation charges of the MTS were based were perhaps double those of 1926–27.[42]

The described relationships have remained in force since the war, except that the inflation ratios of armaments have declined, while those of investment went up. The price revisions of 1949 seem likely to have again boosted the cost of investment much more than they raised the "defense" costs.

For calculating the real expenses on investment and "defense," the ruble expenditures shown by Soviet data either must be recalculated to entirely different prices (foreign, or Soviet pre-Plan prices), or they must at least be adjusted for turnover taxes and deficits or profits. In these adjustments not only the direct subsidies to given industries, but the indirect ones to industries using subsidized investment goods, raw materials, and transportation facilities have to be considered.

3. The cheapness of producers' goods relative to the cost of labor, though not real, affects the calculation of costs as if it were real. This effect is the larger because under Soviet conditions cheapness of investment relative to the cost of labor is in any case fostered by the fact that interest and rent charges are very small in the USSR. Insufficient depreciation charges operate similarly. These factors, in conjunction with the very favorable relation between prices of investment goods and the cost of labor as it existed in postwar years until 1949, gave in the USSR the appearance of profitability to labor-saving devices which were unprofit-

41 Inflation ratio is the coefficient by which a certain value must be divided to reduce it to the 1926–27 level.

42 The expenses and incomes of the MTS are part of the state budget.

able in countries where real wages were several times as high. There are naïve people, some in the United States, who speak with reverence of the water-power or railway-electrification projects undertaken in the USSR, in spite of that country's decidedly low consumption levels for an industrial country—projects that would be unprofitable in the United States or Canada, countries with the highest consumption levels in the world. Enthusiasm is easily evoked, understanding difficult.

The exorbitant prices charged for years in the USSR for petroleum motor fuels made—and in some degree still make—it appear more profitable to use motor vehicles operated on firewood or by electricity than to use those operated with petroleum fuels, although neither method would prove advantageous under a system of prices in line with the production costs of the various goods.

Very cheap raw materials, depreciation charges likewise low because of the low cost of construction, machinery, and other factors, and high nominal wages—all these directly affected the total production-cost level. The higher the proportion of wages in total costs, the higher the total cost tended to be, *ceteris paribus*. The prices were not always permitted to reflect these variations.

Until 1939, the prices of standard coal were about as high (relative to 1926–27) as steel, and in 1940–48 only moderately higher.[43] Soviet evidence leaves no doubt that the coal industries operated at considerable losses all or most of the time until 1949. The iron and steel industries either yielded profits or, if both groups of industries operated at losses, the losses were much greater on coal. The explanation for this diverse behavior is that the proportion of wages (including contributions of the entrepreneur to social security and the like) in total costs of coal production is twice as high as in the iron industries.[44] The same factor was very important in causing lumbering to be usually a losing enterprise. In 1949, coal prices were again raised more than steel prices. The writer is unable to say whether the two industries were finally brought to the same level of profitableness. The steel prices were slashed in 1950 while the prices of coal remained unchanged. For the first time in Soviet history coal yields a great

[43] See Chart 2, p. 21.

[44] In 1940, it amounted to 65 percent as against 29.9 percent. See Turetskii, *op. cit.*, p. 46.

profit and steel involves a loss. One cannot look for too much logic in Soviet price policies.

4. The fact that the level of nominal wages was much higher than the level of prices of the means of production was very important for the formation of farm prices. First, the proportion of wages, or in any case of remuneration for the labor, is very high in the production costs of agriculture. The output of farm products by the kolkhozniki cost them practically nothing but their labor. The situation is not much different with reference to the kolkhozy, if the kolkhozy and their members are regarded as one unit and if the payments in kind for operations performed by the MTS are disregarded. Another important factor is that the kolkhozy and kolkhozniki do not get their deficits covered from the treasury, as has been true of the state enterprises over long periods. The combined effect of all factors was that for years the weighted prices obtained for agricultural products were not in line with the prices of producers' goods, but were more or less in line with the wage level.

Two factors in recent years apparently have worsened the relationship between the weighted average prices received by farm producers for their products, and the wages. They can only be enumerated here: the decline in volume of products sold in the kolkhoz markets; and the unchanged prices for compulsory deliveries and konktraktatsiya to the state, except for a few technical crops. It would seem that some kind of adjustment cannot be avoided here.

5. High prices relative to wages are the principal, indeed the decisive, factor in the circumstance that the retail-trade margin is very small in the USSR. The daily wage of a salesman in a shoe store in 1948 was only about 7 percent of the price of a pair of shoes. In 1928, the percentage was about three times as high; and in the United States in 1948, it was more than 10 times as high. The fact that the rent of store space and warehouses is low, probably covering only the cost of building and maintaining them, is also of some importance.

CHAPTER IV

CURRENT PRICES: TWO PRICE-FORMING FACTORS

Turnover taxes may not be theoretically the most important price-forming factor in the USSR, but they are so in fact. The only other price-forming factor discussed here is profits or, indeed, deficits covered by the treasury, whose effect on prices over quite prolonged periods has been almost as large (on a percentage basis) as that of turnover taxes.

Wages are of course a very important price-forming factor, but their effect has been discussed in the two preceding chapters.

It is frequently assumed that charges representing land rent do not exist in the USSR. This is true in so far as the role of such charges is small, almost negligible. While the present writer has not studied the subject carefully, he is able to mention at least two natural resources which bear a charge for their exploitation. A so-called "dolevoe otchislenie" (payment to the state for the right to extract oil) is made by the state organizations engaged in the output of petroleum. In 1927–28 it amounted to 3.66 and 4.21 rubles per ton respectively out of total production costs of 16.30 rubles in Baku and 10.29 rubles in Grozny.[1] Those engaged in lumbering have to pay to the state a tax per tree, the so-called "popennyi sbor." The writer has no evidence as to the amounts involved. An official source, no more recent, in discussing production costs of coal, mentioned among other items the "rent of bowels," amounting, it is true, to only 3 percent of total costs.[2] All this would need much more careful study.[3]

The problem, whether the low procurement prices paid by the state to the kolkhozy on obligatory deliveries and kontraktatsiya of farm products represent rent payments or simply tax,

[1] USSR, Supreme Council of National Economy (VSNKh), *Industry of the USSR in 1927–28, Yearbook of the VSNKh* (Moscow, 1929), pp. 118, 214.

[2] *Ibid.*, p. 116.

[3] V. P. Timoshenko draws my attention to the fact that irrigation water has to be paid for by the users in Central Asia and South Caucasus (probably elsewhere as well), but he believes this simply represents payment for maintaining the installations. Hydroelectric power stations certainly do not pay anything for the use of the water.

we decide in favor of the tax. State farms do not pay either a rent or a tax, nor is rent charged on city land.

The state does not charge the various state enterprises any interest on the fixed and permanent variable capital assigned to them, while interest on short-term loans is very small. Kolkhozy and private persons pay interest on all their loans (loans to private persons are permitted for construction of private homes), but the interest rates are low and total transactions small.

The persisting insufficiency of depreciation charges is discussed elsewhere (pp. 88–89). The effect of this factor is about the same as that of the almost negligible interest charges. Obviously, production costs and prices are depressed most in those industries in which fixed capital is highest in relation to the value of the current output. These are primarily the heavy industries, especially those engaged in extraction of natural resources with no cost for the basic raw material. Hydroelectric plants are, of course, on top in this respect.

TURNOVER TAXES

Just as the high price of consumers' goods in the USSR is a unique phenomenon, so also is the principal or exclusive device for bringing about the great spread between consumers' prices and producers' prices. This device is the turnover tax.

As the term indicates, the turnover tax is imposed on the sale of goods, although sometimes, and in some very important cases, the tax is payable even if the goods are processed in the same enterprise. Turnover taxes have much in common with excise taxes. But excise taxes are normally levied on only a limited number of commodities, mainly those the consumption of which is to be discouraged, such as alcoholic beverages, or luxury or supposed luxury goods (sugar); tobacco is another favored object of such taxation. The Soviets have extended taxation of the turnover to practically all consumers' goods, certain medical supplies being the only exception.[4] But even more important is the level of taxation. The tax on such a necessity as salt exceeds the level of taxation imposed in many other countries on hard liquor.

The turnover taxes as handled in the USSR include the "reve-

[4] The small turnover taxes on these items (1 percent; see Appendix Table I) may be regarded as nominal according to Soviet standards, but eyeglasses are taxed much higher.

nue" from sales of goods acquired at low prices from farm producers on obligatory deliveries and kontraktatsiya. If the burden of taxes on the urban consumer were to be determined, the profits from this underpayment would have to be deducted from the proceeds of the turnover taxes. On the other hand, sellers in kolkhoz markets are permitted to pocket the difference between the prices they receive, kept high by turnover taxes, and what would be fair prices under Soviet conditions, i.e., the amounts called quasi tax above (pp. 51 and 64, n. 37). If an attempt were made to deduct the revenue from the low prices paid to farm producers from the total proceeds of turnover taxes, the quasi turnover taxes would in all justice have to be added. The following tabulation compares the proceeds from turnover taxes with the total consolidated budget, which includes the budgets of the republics, oblasts, and cities (in billion rubles):

Year	Consolidated budget revenue	Turnover taxes	Taxes as percentage of budget
1930[a]	5.3	2.4	45.9
1931	25.2	11.7	46.2
1932	38.0	19.6	51.3
1933	46.4	27.0	58.2
1934	58.4	37.6	64.4
1935	75.0	52.2	69.6
1936	94.4	65.8	69.7
1937	109.3	75.9	69.4
1938	127.5	80.4	63.1
1939	156.0	96.9	62.1
1940	180.2	105.9	58.7
1941	191.4	93.2	47.6
1942	165.0	66.4	40.2
1943	210.7	71.1	34.2
1944	268.7	94.9	35.3
1945	302.0	123.1	40.8
1946	325.4	191.0[b]	58.7
1947	386.2	239.9	62.1
1948	410.5	247.5	60.3
1949	437.0	239.1	54.7
1950	422.1	236.1	55.9

Data from official sources, such as budget reports or standard publications on finance.

[a] The last, so-called "special," quarter of the year.

[b] Preliminary figure.

The shift from excise taxes of the usual type to turnover taxes occurred at the end of 1930. Their use began in a relatively small way, but the desire to obtain funds for investment was boundless, and, with the population and press having no say, turnover taxes offered an easy access to the consumers' pockets. Soon they became the backbone of a huge state budget.

Relating the proceeds of turnover taxes to the consolidated budget does not fully show their economic significance, because the rapid growth of the turnover taxes permitted a great expansion of the budget itself, and the budget comprised an ever increasing proportion of total national income. In 1948, the budget and the proceeds from turnover taxes amounted respectively to close to two-thirds and over one-third of total national income (Soviet concept).[5]

It was shown in an earlier study[6] that a huge portion of the Soviet national income, indeed a portion far exceeding anything ever observed elsewhere, is spent on net investment and "defense." Dobb has noticed that the revenue from the turnover tax roughly equaled the expenditures on these two items;[7] but he did not bring out that the proceeds from the turnover tax are obtained in the market of cheap money (consumers' goods) and spent in the markets of relatively expensive money (producers' goods, armaments, freight transportation).[8]

The tremendous economic power that the Soviet state wields through its budget would be impossible without the turnover taxes. It is difficult to imagine that the huge amounts extracted from the population by way of turnover taxes could have been obtained by direct taxation of incomes. Theoretically the Soviet state had the alternative of paying correspondingly less in the form of salaries and wages, but this would be much more difficult to enforce. Aside from establishing the immense spread between the prices of producers' and consumers' goods, and thus absorbing the purchasing power of consumers and using it for the simul-

[5] National income (Soviet concept) consists of net returns of industrial and agricultural production, construction, freight transportation, trade, and communications, except those serving private consumption (see p. 132).

[6] Jasny, *The Soviet Economy during the Plan Era*, table and related comments in chapter vi.

[7] Dobb, *Soviet Economic Development since 1917*, p. 364.

[8] On this point, see pp. 16–19.

taneously cheapened means of investment and defense, the turnover taxes impart to the system an elasticity more difficult to attain by way of direct taxation. Turnover taxes make it easy to cut consumption, while comparable reductions in pay would be dreaded even by the all-powerful dictatorial state. Vice versa, retail prices of consumers' goods may be maintained or even cut, although production costs rise, by reducing turnover taxes more than proportionately. Turnover taxes also permit the regulation of the market for each commodity or group of commodities. Retail prices of goods in great demand or in short supply may be raised by way of turnover taxes, and the additional revenue, which in a capitalist state would go to individual entrepreneurs, may be absorbed by the state.

Experience in the prewar years does not indicate that the opportunity to regulate demand and supply by way of turnover taxes was utilized to full advantage, especially with reference to individual commodities. Otherwise the combination of fixed government prices and frequent absence of goods from government stores would not have been such a familiar feature of the Soviet economy.[9] Lack of specific data prevents one from ascertaining whether the use made of the same opportunity in postwar years has been adequate. The need for adjustments via turnover tax was very great when the wave of cuts in the prices of consumers' goods started in December 1947; prices of producers' goods and freight rates remained unchanged through 1948, but rose sharply in 1949. The fact that the total return from turnover taxes declined only negligibly from 1947 to 1950 implies that the adjustments of turnover taxes to the changed situation were greatly inadequate. Retail turnover rose 75 percent or more by volume but is unlikely to have expanded by value as much as 20 percent. The profits of the consumers'-goods industries must have been cut into drastically and at least some of them must have become deficit propositions. Direct complaints are encountered on this score.

[9] "Goods famine" is the Soviet term for the regular excess of demand over supply in that country. Even Dobb comes to speak of this shortcoming repeatedly (see his index of subjects, *op. cit.*, p. 463). Bergson speaks of "the Russians' persistent failure to bring about any tolerable adjustment of demand, supply, and prices in the consumers' goods market." See "A Problem in Soviet Statistics," *Review of Economic Statistics*, November 1947, XXIX, 242. There is also evidence on this account in Soviet sources, especially in the writings of Sh. Turetskii.

Level of taxation.—Variations in the rates of turnover taxes run largely parallel with the level of prices for the various groups of commodities and individual commodities as discussed in chapter ii. It would be more correct to say that the level of prices runs parallel to the level of turnover taxes imposed on the various goods.

Consumers' goods pay huge taxes, typically from about 30 to 75, but up to 88 percent of the price, the price being either at wholesale or retail—in both cases *including the tax;* in the latter case the basis frequently is the retail price less the retail handling charges, i.e., practically the wholesale price. It is obvious that a turnover tax of 88 percent of the retail price would have raised that price by as much as 733 percent, even in the impossible case of the retail margin remaining entirely unaffected by such a large price boost. With this effect considered, a turnover tax on a consumers' good equivalent to 50 percent of the retail price—a tax below average for this type of commodity in the USSR—more than doubles the retail price.

Dobb writes on the variations in the level of turnover taxes on consumers' goods:

> The higher rates of tax are apt to be on luxury goods. . . . The general effect of the differential rating apparently is . . . to cause the price structure to discriminate against non-essentials (and hence to make *real* differences of income smaller than an inspection of *money* differences would lead one at first to suppose).[10]

As in many other of Dobb's descriptions of the Soviet economy, this is not the Soviet reality but Dobb's (and in this case also the writer's) idea on how things should be. The rates of turnover taxes tabulated in Appendix Table I, in conjunction with the price indexes discussed in chapter ii, pages 44–45, clearly show that the situation is not in accord with Dobb's picture. The only consideration which could be put forward by Dobb in support of his point of view is that in some cases the rates of tax are lower on the cheaper than on the more expensive types of the same commodities. But in almost all such cases the differences were small or, in any case, not very large at the time to which our data pertain. For example, "makhorka," a very cheap and crude sub-

[10] Dobb, *op. cit.*, pp. 371–72, note.

stitute for the common tobacco, paid 70 percent of the retail price; cigarettes, 75–88 percent; or calico, 55 percent; other cotton goods, 62–65 percent. Furthermore, better breads paid taxes (mostly small) in addition to the high taxes on flour, while common bread paid only the latter. The differential is larger in the case of woolen goods, coarse woolen fabrics paying 43 percent and worsted woolen goods 62 percent, but in this case goods are involved which are not readily substitutable one for the other. In contrast to this, the tax on poultry was much smaller than that on the other meats; the tax on the higher-priced hard liquors was less than that on vodka, the cheapest hard liquor; the tax on caviar and canned fish was less than the tax on ordinary fish, lower even than on some, probably all ordinary, herrings. Salt in bulk paid 70–80 percent, salt in small packages only 35–42 percent. Much more important than these variations *within* the same groups of commodities are the variations *between* the commodities.

By taxing vegetable oil, the cheapest source of fat in the USSR, twice and heavily, it was made into the relatively most expensive food. In 1926–27, the price of sunflower-seed oil was 28.3 percent of that of butter; in 1950, the percentage was 44.1. The following range of turnover-tax rates (in percentage of total price) seems sufficient to describe the ultra-antidemocratic method of taxation in the USSR:

Salt in bulk	70–80
Caviar	40
Radio receivers	25
Automobiles	2

When it is necessary to cut consumption as much as is desired in the USSR, there is no purpose in trifling with taxation of gold watches. The Soviet state would not get rid of all the caviar produced if it were taxed as high as sunflower-seed oil or salt. The sales of automobiles are small in any event. There would be no sales at all if automobiles were taxed as high as bread, the sales of which are little affected by the price.

The data of the 1941 Plan on the prices and costs of the output of those commissariats which collect the largest sums in turnover taxes are quite revealing with reference to the burden im-

posed by the turnover taxes upon the taxpayers. They are as follows (in million rubles):

Commissariat	Value at "unchangeable 1926–27 prices"	Production costs in current prices	Charged by the industry at current prices[a]
Textiles industry	10,700	28,080	46,000
Light industry	8,821	20,300	28,260
Fish industry	996	3,534	5,998
Meat-milk industry	4,600	8,012	23,115
Food industry	13,050	39,660	84,500
Procurements	2,647	?	31,261
Total	40,814	?	219,134
Petroleum industry	3,680	3,674	16,200
Grand total	44,494	?	235,334

Data from *1941 Plan, Supplement*, pp. 11, 566–67, and others.
[a] "Otpusknye tseny," wholesale prices of the industry.

The fact that the Commissariats of the Food Industry and of Procurements were expected to sell goods valued respectively at 13.0 billion and 2.6 billion rubles at 1926–27 prices for not less than 84.5 billion and 31.3 billion rubles must be quite surprising to those who know the Soviet economy from Dobb's descriptions. One may ask oneself, in this connection, whether it is possible that a university professor, who had published extensively on the Soviet economy for some 25 years, does not know at least a few basic turnover-tax rates. It is revealing in itself that Dobb dealt with the whole problem of distribution of the burden caused by the turnover taxes in a footnote.[11] The production costs of the Commissariat of the Food Industry of 40 billion rubles appear so high because they include the turnover taxes on raw materials. This would not be the case with the costs of the Commissariat of Procurements. The astonishing smallness of costs relative to the expected returns of this commissariat may well have been the reason that the document, published with the demand "not to be disclosed," suppressed the evidence.

The extent of taxation of the retail turnover in the USSR is obviously exorbitant, one which has no analogue outside of that country at present or in the past. Turnover taxes are a substitute for direct taxation, which is resorted to on a much larger scale by many countries outside of the USSR. If even part of the revenue now obtained by way of turnover taxes were obtained by income

11 Dobb, *loc. cit.*

tax, the low-income groups would not have paid anything and the high-income groups would have carried the brunt of the tax burden. *The immense sacrifices of the Soviet population, and specifically of the lowest-income groups, effected by way of turnover taxes, are facts not to be disputed. Disagreement should exist only on the question whether the sacrifices are worth while.*

Unlike consumers' goods, most producers' goods paid almost nominal taxes of 0.5–1.0 percent until January 1, 1949, when all taxation of producers' goods was abolished,[12] though an exception was apparently made for petroleum products and possibly varnish. The major exception to the low turnover taxes on producers' goods before January 1, 1949 was petroleum products used as motor fuel and lubricants. Those goods were burdened with extremely high taxes.[13] Varnish was another such item, and apparently paint made with varnish as well. In Moscow and Leningrad, electricity, even if used for production purposes, was also taxed rather heavily. Taxes relatively high as compared to those on such basic industrial materials as coal or steel, namely 12 percent of the wholesale price (1938), had to be paid on leather, even that used for producers' goods. Other items in the same category were tarpaulins (10 percent) and sacks (4 percent). The collective farms and other users paid a tax on scythes amounting to 13 percent in 1938.[14] The tax on scythes (of all things) was raised to 63 percent of the retail price less handling charges, effective July 1, 1945.[15]

The high prices of building materials sold on the "broad market" and their low prices to the state and co-operative organizations (see pp. 42–43)—this and other similar price disparities are also attained by varying the turnover tax, or, since January 1, 1949, by not levying any tax on sales to the state and co-operative organizations, while imposing high taxes on goods sold in the "broad market."

Turnover taxes in Marx-Engels-Lenin-Stalin theory.—The Soviet turnover taxes have a specific piquancy about them because the program of the Bolshevik Party, on which the Party came to

12 Vladimirov, "For Profitable Operation of Enterprises," *Questions of Economics*, 1948, No. 8, p. 32.

13 See Appendix Table I. Kerosene for lighting pays the same tax.

14 Such early evidence has to be used in the absence of more recent information.

15 *Collection of Laws*, 1945, No. 7, Art. 85.

power, contained the demand for complete abolition of all indirect taxation, in the first place, of course, of the excise taxes. Yet the Soviet turnover taxes are obviously indirect taxes closely akin to excise taxes. Indeed, the Soviet turnover taxes, levied on the most indispensable goods and at unheard-of rates, are indirect taxes of the most objectionable sort. In the earlier years these taxes were treated as a deplorable concession to necessity and no attempt was made to conceal their true nature. The 1935 statistical yearbook[16] still listed them among taxes. But this was changed soon afterward. In the 1936 edition of the same yearbook,[17] the revenue from turnover taxes was detached from the item "income from taxes" and was reported as a separate item of the state budget. This change reflected a change in "philosophy." At about that time Marxian theory was enriched with the idea that turnover taxes are not indirect taxes and not even taxes at all, but profits of the Soviet economy. The Soviets began with the idea that the usual entrepreneurial profits, which in capitalist countries amount to perhaps 25 percent of the value of the commodities produced, are the result of exploitation of the laborer. They finished by declaring that turnover taxes, some of which amount to as much as 88 percent of the retail price, are merely profits of the socialized economy.

While they have taken such an important step as to revise Marx, the Soviets have thus far neglected to revise the term itself. The income of the state, declared to be profits of the socialized economy, continues to have the abominated word "tax" in its name. One of these days the term may be replaced by one more appropriate to its function in the Soviet socialized economy.[18]

The improvement on Marx gave the Soviets a convenient propaganda implement, it appears. In a country where around half of the national income is confiscated by the state for new investment and aggression, the interpretation of turnover-tax receipts as incomes permits such speeches as the following to be made:

> It is known that an overwhelming portion of the incomes of the Soviet budget is derived from the payments of the socialist economy. The share of

[16] USSR Gosplan, Central Office of National-Economic Accounting, *Socialist Construction USSR, 1935* (Moscow, 1935), pp. 644–45.

[17] *Ibid., 1936* (Moscow, 1936), pp. 646–47.

[18] The Soviets, it is true, do not shun such contradictions. Many inventions, which are claimed as being made by Russians, as for example tractors or radios, reveal the lie in their American or other non-Russian names.

taxes from the population is negligible. The total amount of tax incomes from the population in 1939 is scheduled at 6.5 billion rubles, this being only 4.2 percent of all budgetary incomes.

Thus spoke Zverev, then Commissar of Finance, in introducing the 1939 budget.[19] He repeats the same formula almost every year.

So far as concerns those who pay turnover taxes, the Soviets certainly are no better off with their improvements in economic theory than the ostrich which buries its head. But some foreign "scholars" seem to be impressed, or at least they act so. To paraphrase a German saying, the Soviets know their customers.

The Soviet enterprises also yield the usual type of profit, though not all enterprises and not all the time. Hence, after declaring the proceeds from turnover taxes to be profit, Soviet economic theory began to distinguish two types of profit from economic enterprises: profit in the narrow sense, and turnover taxes. The official version is that there is no theoretical difference between the two[20] and that the separation exists only for practical purposes.[21]

The declaration that proceeds of turnover taxes are profits definitely made them a part of the national income, even if the concept of national income at factor cost is used, which does not consider indirect taxes part of this income.[22]

Textbooks and reference books on finance, and specifically on taxation, consistently avoid mentioning the actual rates of turnover taxes. This cannot be merely accidental, and there is logic in it. As the Russian saying goes: In the house of a hanged person, one does not speak of a rope.

Techniques of levying.—The turnover tax has to be collected whenever a good is sold.[23] Every item pays the tax once on its

19 Zverev, *State Budgets of the USSR, 1938–45*, p. 43.

20 See D. I. Chernomordik *et al.*, *National Income of the USSR: Its Formation and Estimation* (Moscow, 1939), p. 87: "From the economic point of view, the turnover tax and the socialist profit are identical in nature." See also the reports of the Commissar of Finance on the state budget (Zverev, *op. cit.*, pp. 96, 136, and others), and practically every pronouncement dealing with turnover taxes.

21 The individual enterprises participate in their profits in the narrow sense but not in the proceeds from turnover taxes accrued from their produce.

22 See below, p. 81.

23 "Instruction of the People's Commissariat of Finance USSR on Turnover Tax of October 7, 1944, No. 550" (hereinafter referred to as "Instruction No. 550"), Art. 1, in *Collection of Orders, Circulars, and Instructions on Finance—Economic Problems* (Moscow), 1945, Nos. 1–2.

way to the consumer, independently of the number of sales.[24] But additional processing, unless extremely simple, may involve a new tax.[25] The tax for the additional processing is generally small, the preferred mode being to levy the main burden on the raw material or goods obtained after the first processing. This policy is due to the desire to discourage processing in homes. It is easier to bake or sew at home than to grind or to weave there. In a number of important cases, the second tax has to be paid even if the additional processing occurs in the same enterprise.

As already mentioned, most taxes are expressed as percentages of the wholesale price including the tax, but on certain goods the tax is a percentage of the retail price including the tax. In some cases, again, as for the important item of flour, the tax is in varying lump sums (depending on its grade). When the tax is related directly to the retail price, it is sometimes equivalent to the difference between the fixed wholesale price plus the retail margin and the fixed retail price; this is the so-called "byudgetnaya raznitsa" (budgetary margin). In the case of vegetable oil and possibly some other products, the "budgetary margin" is collected in addition to the turnover tax, so far as the goods are sold on the broad market.

An official source stated in 1938:

> The existing system of collecting turnover taxes is extremely involved. The enemies of the people have complicated the matter to such an extent that at the present time the collector of revenue is not in a position to decide a number of problems connected with the taxation of industrial goods. The reference book published in 1937 by the Office of Income of the Commissariat of Finance contains many errors.[26]

It is questionable whether later improvements eliminated all shortcomings. A great deal of bureaucratic work must be involved in levying and collecting the great number of various taxes on all consumers' and some producers' goods.

Two specific problems. — Two specific problems involving turnover taxes are important in analysis of the Soviet economy. The first pertains to inclusion of turnover taxes in the official computations of national income, industrial output, and so on, at cur-

[24] *Ibid.*, Art. 2.

[25] *Ibid.*, Art. 29. The cases specified are: milling of timber to lumber; smoking, salting, drying, etc.; and packing.

[26] USSR Commissariat of Finance, *Alphabetic List of Industrial Goods with Rates of Turnover Taxes and Budgetary Trade Margins* (Moscow, 1938), p. 2.

rent prices. Such estimates have not been released since 1931, except possibly the industrial output in eastern territories in 1940 and in a few war years,[27] but they are implied in numerous official pronouncements.[28]

The concept of national income at market prices, already employed by the Gosplan in the pre-Plan era, came in extremely handy when all those immense receipts from turnover taxes started to pour into the treasury. The available official estimates of national income in current prices, made in the early years of the Plan era (through 1931), seem to have exceeded sufficiently those in 1926–27 prices to have room for all proceeds from the turnover taxes.[29] The relatively small shares of investment and reserves in the estimates of the 1932 and 1937 (goal) national incomes in current prices, given in the 2d Plan only in percentages, likewise indicate that the share of private consumption in the national income was pushed up by the large proceeds of turnover taxes.[30] After the proceeds of turnover taxes were declared profits of the national economy, their inclusion in the national income became a matter of course. The Chernomordik symposium on national income published in 1939, but apparently based on regulations pertaining to 1937, takes for granted that proceeds from turnover taxes are part of national income.

In this connection, there is a question about the branches of the economy which are believed to be a source of this socialist profit. It seems reasonably certain that industry is the only branch producing profit in the form of a turnover tax in the USSR. Trade surely does not yield this type of profit. Detailed analysis of the retail margin by Moskvin,[31] pertaining to 1936 but published in 1939 in the Chernomordik symposium, does not contain a trace of turnover tax. Even more clearly is this apparent from a recent text on accounting. According to it,[32] in determining the value of the "merchantable production," the total turnover tax is added to the price at which the industry sells (otpusknye tseny), even

27 Voznesenskii, *War Economy of the USSR during the Patriotic War*, pp. 48–54. The *1941, Supplement*, published with the notation "not for circulation," contained the industrial output also in current prices.

28 See, for example, the statement in *3d Plan*, p. 197, on the distribution of the national income by origin and use in 1937 and 1942 (goal) in terms of 1937 prices.

29 See p. 138.

30 See discussion on pp. 139–40.

31 D. I. Moskvin, "Trade," in Chernomordik *et al.*, *op. cit.*, pp. 232–71.

32 USSR Gosplan, *Accounting* (Moscow, 1948), p. 310.

in those cases in which the turnover tax is based on the retail price. When a farm product is processed, the industry that performs the processing is naturally the producer of profit in the form of turnover tax. But the same is apparently the case when a farm product is involved which passes directly from the producer to the consumer without any processing, as feed grain, milk, and eggs. The Ministry of Procurements is included among the industrial ministries, and all proceeds from turnover tax accrued on the products handled by it are apparently credited to it, whether the goods are processed or not.[33] There is, in any case, no indication to the contrary (see also p. 149).

The second problem to be discussed here is the extent to which the state itself pays the turnover taxes. The most interesting question involves turnover taxes on goods utilized by the armed forces. All attempts of the present writer to solve this problem conclusively have been futile thus far.

The state pays almost all of the turnover taxes on producers' goods, so far as these exist. The taxes on gasoline, kerosene, and other petroleum products alone yield many billion rubles,[34] and little of the yield comes from private consumers.

Article 35 of the apparently most recent instruction[35] contains the general regulation that the subsidiary enterprises of the budget organizations do not pay taxes on goods produced by them for their own organization. Budget organizations are those whose expenditures and incomes, if any, are part of the budget, as for example, the armed forces or organizations in charge of education and medical help. State organizations engaged in industry, transport, and trade are not budget organizations. Among the agricultural enterprises, only the incomes and expenditures of the MTS appear on the budget. The turnover taxes which rest on raw materials processed by the organizations involved must obviously

[33] The huge amounts of tax obviously included in the values of output of the six commissariats primarily connected with consumers' goods at "otpusknye tseny," as planned for 1941 (see above, p. 76), may probably serve as supporting evidence. This is specifically the case with the big return expected for the Commissariat of Procurements. According to the *1941 Plan, Supplement*, this commissariat shows the fantastic output of 61,000 rubles per worker and year (in the coal industry this output was only 5,511 rubles). That figure probably is so high because most workers of this commissariat were engaged only in receiving goods, the value of which was greatly boosted by the addition of turnover taxes.

[34] The budget for 1938, for example, expected an income of 7,971 million rubles from this source. See *Planned Economy*, 1938, No. 10, p. 59.

[35] "Instruction No. 550," Art. 35, pp. 5–6 in *Collection of Orders, Circulars, and Instructions on Finance—Economic Problems* (Moscow, 1945).

be paid in full. Hospitals, schools, and similar institutions normally do only their cooking and probably part of their baking. Since most or all taxes rest on the raw materials, such as flour and meat, these organizations are likely to gain little from the privilege embodied in Article 35.

Because the sources were not clear on the matter, the writer for a long time worked on the assumption that the general exemption from turnover taxes, accorded to deliveries to the armed forces by the government order of September 2, 1930,[36] continued in force. It developed that the privilege was revoked long ago, namely effective October 1, 1936.[37] The only act of legislation touching specifically upon the relation between turnover taxes and the armed forces is the order of the government of February 9, 1943, No. 139, which, it would seem purposely, was not published in the appropriate place.[38] The "Instruction No. 550" of the Commissar of Finance quotes from this order only the following regulation:

> On the basis of the order of the Council of Soviet Commissars of February 9, 1943, No. 139, the People's Commissariats of Defense, Navy, Armaments [two Commissariats], Aviation, Shipbuilding and Tank-Mine-Throwing industries are released from turnover tax with reference to all the output they sell.[39]

It is not clear whether this privilege is in addition to those granted all budgetary organizations previously mentioned, or is a substitute for them. The commissariats, or ministries, connected with the armed forces produce armaments primarily. These probably did not pay any turnover taxes even before January 1, 1949, and if they did, the taxes were very low, as on machinery. In any case, armaments were free of tax after that date, along with machinery and most other producers' goods. The armed forces probably still profit from the regulation of February 9, 1943, but to what extent it is difficult to ascertain. One of those ministries may, for example, produce uniforms for the men in the armed forces. There would be no tax on them, and probably the tax on the cloth used is deliberately set low. It seems quite un-

[36] Attachment 2, Art. 3, in *Bulletin of the Finance and Economic Legislature* (Moscow), 1930, No. 26, p. 9. See also K. N. Kutler, *State Incomes in the USSR* (Moscow, 1933), p. 85.

[37] Kutler, *State Incomes in the USSR* (Moscow, 1940), p. 90. Gregory Grossman drew my attention to this source and to the error in general.

[38] *Collection of Orders, Circulars, and Instructions on Finance—Economic Problems.*

[39] *Ibid.*, Art. 32, p. 5.

likely that, with "occupational" clothing of all kinds being much cheaper than civilian garb, the armed forces would have to pay the full prices for the uniforms for their men. But as stated above (p. 42), the evidence on "occupational" clothing pertains to prewar years, and the preferential treatment of it may have been abolished.

The specific rates.—Lack of data precludes a systematic compiling of the rates of turnover taxes in effect in postwar years. It proved impossible even to establish all the rates effective at the Soviet Union's entrance into war. Although all or most rates were probably changed, the compilation in Appendix Table I nevertheless gives a good idea of the policies pursued.

PROFITS AND SUBSIDIES

There is no such close correlation in the Soviet economy between production costs and selling prices (the latter being understood as minus turnover taxes resting on the finished goods; turnover taxes on raw materials are part of the costs) as is observed in a private economy. Such a normal procedure as adding an appropriate profit to the production costs and accepting the total as the approximate selling price is inapplicable to the Soviet economy. Some industries, such as lumbering and coal mining, were apparently a losing proposition throughout the whole Five-Year Plan era up to 1949.

Technically the procedure is that the losses of individual enterprises are offset by profits, if any, of the same "glavnoe upravlenie" (glavk) or trust (immediate subdivisions of the commissariats). Only the deficits of the glavks and trusts are covered by the treasury,[40] but these represent the bulk of the losses. Combinations of goods yielding a profit with goods yielding a loss in the same glavk or trust probably occur more frequently in the industries producing consumers' goods than in those turning out producers' goods. Consequently losses in consumers'-goods industries are likely to be more frequently covered without resort to the treasury than those in the producers'-goods industries. Combinations also exist in which a glavk produces both producers' and consumers' goods, and the profits from the latter may cover losses from the former.

[40] S. M. Kutyrev, *Analysis of Balance of Incomes and Expenses of an Economic Enterprise* (Moscow, 1948), p. 110.

The difference between goods with large turnover taxes put on them and those with little or no taxes is important in connection with deficits. In the case of producers' goods, on which turnover taxes are generally negligible, an increase in costs (for the whole glavk or trust) not accompanied by a corresponding rise in prices may necessitate a subsidy or increase of subsidy. In the case of consumers' goods, however, the necessary adjustment may be made by changing the turnover tax or taxes. Use of this opportunity has not always been adequately or timely. For example, the turnover taxes on rye and rye bread were reduced (on rye from 45 to 36.5 rubles per quintal in Zone 1) by the law of March 23, 1940—even though prices of rye bread remained unchanged. The reduction of the taxes obviously occurred in view of the additional costs caused by the preceding increases of the prices of coal (effective on February 1, 1939) and other subsidiary materials, and especially of freight rates (effective April 1, 1939). Still, turnover taxes were changed more frequently than prices. They were a more elastic implement for adjustments than the latter.

The decisive factor behind the need for and size of the subsidies was the definite policy of making the consumers'-goods industries profitable, while looking with equanimity, or even with approval, on losses of the producers'-goods industries. Petroleum products used to be the principal exception. Machinery, for which the prices are frequently fixed at the excessive costs in the first year of introduction of the specific machine, also in the main returned a profit. No adequate data are available with reference to the differences in profits or losses as between producers' and consumers' goods, but one can be certain that most deficits and subsidies from the treasury involved producers' goods. The policy of making relatively higher profits (ordinary profits, not such as come from turnover taxes), or having smaller losses, in consumers' goods industries contributed to the wide spread between the prices of producers' and consumers' goods brought about by turnover taxes.

Civilian producers' goods. — Specifically with reference to producers' goods, the situation was this: the prices of producers' goods were revised only at great intervals, though in big jumps then (as already stated, there were only four major revisions of the prices of producers' goods during the Plan era, on April 1,

1936, February 1, 1939–January 1, 1940, January 1, 1949, and those of 1950); and until 1949, the tendency at each revision was to set prices that just covered costs. The prices set for rails on April 1, 1936 were the major exception, but the error was corrected in 1937. For some important goods the new prices proved insufficient to cover all costs from the very outset. Even where this was not the case losses showed up soon, owing to the continuing inflation.

During the first two Plan Periods the Soviets were rather frank about the amounts of subsidies to producers' goods, especially when the time was believed ripe to raise their prices. The subsidy to coal, for example, was equivalent to almost 100 percent of the price in 1933–35; on steel it amounted to almost 50 percent of the price. By the decision of the government made in 1936, an end had to be put to the practice of subsidies. Immense importance was assigned to this move, as evidenced by the following typical verbiage:

> This decision is a historical indicator of the huge attainment reached by the heavy industry in mastering the new techniques, brought about by expanded construction with input of billions [of rubles], and in the struggle for profitableness, for high labor productivity, for reduction in production costs. This decision of the SNK [Council of People's Commissars] of the USSR opens inexhaustible possibilities of intra-industrial accumulations for the industries which for a number of years were "sitting" on state subsidies. . . .[41]

Almost all existing losses were wiped out by the price raises effective April 1, 1936, or later, amounting up to 100 percent. The attempt, however, was short-lived. Costs continued to rise, though not very rapidly. By 1938, many industries were again operating at a loss. Effective February 1, 1939, coal prices were raised by more than 50 percent. Many other producers' goods followed—iron and steel on January 1, 1940. Yet in 1940, the coal industry again apparently operated with a loss of about 5.0–5.5 percent.[42] The deficits were naturally much higher on pro-

[41] A. A. Andreev, "Liquidation of State Subsidy in the Iron Metallurgy," *Soviet Metallurgy* (Moscow), June 1936, p. 1.

[42] This is indicated by the following goals for the People's Commissariat of Coal in the *1941 Plan, Supplement* (pp. 11, 566–67):

Production costs (million rubles)	6,206
Reduction in production costs from 1940 (percent)	6.3
Value of output (million rubles)	6,276

One-half percent of turnover tax on coal must have been included in the value of the output. According to the *1941 Plan, Supplement*, the production costs of coke were to be 71.50

ducers' goods whose prices had not been raised recently. A cubic meter of timber (or timber and lumber) involved a loss of 11–12 rubles, i.e., around 60 percent of its price, in 1940.[43]

During the war, only isolated increases in the prices of producers' goods occurred. The production costs of industry were rising rapidly, however, owing to a considerable increase in wages, deterioration of the quality of the labor force, general disorganization including longer hauls of materials, higher freight rates, and so on. The increase in the production costs of civilian goods must have been particularly large. If the sums which might have been used on the subsidies from the treasury during the war appear not to have been very large,[44] the simple explanation is that the total output shrank greatly.

The prices of most producers' goods remained unchanged after the war, until the end of 1948. While the exact trend of production costs in postwar years is difficult to ascertain (some further rise is certain), the total amount of deficits and subsidies was rising strongly with the rapid increase in output. The boost of the prices of producers' goods by more than 100 percent in 1949 is in itself adequate proof of the great deficits in the preceding years.

In postwar years the Soviets have not disclosed the exact size of subsidies from the budget to their economic enterprises (industrial and agricultural output; transportation and communications), but the amounts were huge in the years preceding the price revisions of producers' goods in 1949. In 1948, for example, 94.1 billion rubles were spent by the treasury on industry. Of this total, 39.7 billion were earmarked for investment in fixed capital and 8.5 billion for investment in variable capital.[45] The

rubles per ton in 1941. The wholesale price in 1940 (and also in 1941) was 67 rubles per ton for the Donbass coke and 47.80 rubles for the Kuzbass coke (see Livshits, "On Regional Differences in Labor Productivity," *Questions of Economics*, 1950, No. 6, p. 37)—a deliberate favoring of the steel industry.

[43] Evidence of the size of the deficit from Molotov's report on the 1941 Plan (*Pravda*, Feb. 19, 1941). The *1941 Plan, Supplement*, p. 577, gave the expected average production costs for the principal commissariat engaged in forestry work as 29.10 rubles per cubic meter.

[44] According to Zverev (*op cit.*, p. 132), the total appropriation from the budget to the national economy amounted to 44.7 billion rubles in 1944. According to K. N. Plotnikov (*Budget of a Socialist State*, Moscow, 1948, p. 306), the capital investments, again in the whole economy, were equal to 27.4 billion rubles in the same year; most of this sum must have come from the treasury. Hence, the subsidies to all economic enterprises other than the MTS are likely to have amounted to not quite 15 billion rubles.

[45] A. G. Zverev, "State Budget of the 4th Year of the Stalin Five-Year Plan Period," *Planned Economy*, 1949, No. 2, pp. 42–44. The figure of 8.5 billion is an approximation.

remainder, 45.9 billion rubles, consisted largely, probably almost exclusively, of subsidies—a fantastic sum even in inflated Soviet rubles. The losses offset by profits within the same glavks and trusts came in addition. Most of the subsidies certainly went into producers' goods industries. The subsidies on timber and lumber may well have been 2-fold to 2.5-fold their wholesale prices in 1948.

The on-the-average heavily subsidized producers' goods went into investment and armaments, either directly and almost wholly as with machinery and armaments, or indirectly and to a more or less large extent as with metal and coal. Thus investment and expenditures on the armed forces actually consisted not only of the values shown in the budget and elsewhere as spent on them directly, but also of a large part of the subsidies to industry and of part of the subsidies to some other state enterprises, such as transportation.[46]

While big improvements in machinery production were undoubtedly made during the Plan era, they can account for only a small part of the phenomenon that in 1948 machinery prices were roughly double those in 1926–27, while wages were about 11-fold that level. The spiraling effect of subsidies, in conjunction with negligible interest and rent charges and inadequate depreciation, was the major factor in that phenomenon. This spiral, indeed, appears nothing short of remarkable. In 1949, coal and steel prices were raised 233 and 176 percent respectively. It seems justifiable, therefore, to assume that the prices at which the machinery industry had obtained its raw materials in 1948 covered at most only half of the production costs of those materials as calculated by the enterprises involved. The difference between prices and costs of the raw materials would have been even larger if the enterprises that produced them had not, in their turn, used greatly underpriced materials; had not operated with greatly undervalued capital goods, interest-free capital, and rent-free plants; and had not charged inadequate depreciation on their undervalued fixed capital. (The great undervaluation of the fixed capital in the industries producing the raw materials was

[46] The fact that "subsidies from the state budget . . . understate the actual amount of money expenditures in the economic branches utilizing the output of the so-called 'deficit' industries," was pointed out by Sh. Turetskii as early as 1936 (see *Plan*, Moscow, 1936, No. 22, p. 38), and possibly even earlier.

obviously the result of using directly and indirectly subsidized building materials and machinery in constructing their plants.) With all those factors considered, the production costs of the materials used in machinery production, plus adequate profits, may well have been around 3-fold their selling prices in 1948. If the 1948 production costs of the machine industry consisted of the cost of materials to the extent of 50 percent,[47] the output of the machine industry was cheapened from that source alone to the extent of 150 percent of its selling prices in 1948.

Now it so happened that the machine industry itself also paid no interest or rent, and depreciated its greatly undervalued plant inadequately. All that entered on these accounts into the production costs of machinery in 1948 was a very small charge for depreciation. If interest, rent, and adequate depreciation had been part of the costs of the machine industry and an adequate profit had been included, the price of machinery in 1948 might well have been at least treble its selling prices. Such a trebling would have brought the price of machinery to a level about 6-fold that in 1926–27—still not enough. For while the big improvements in machine production since 1926–27 are readily granted, the fact must also be considered that no interest or rent was paid in 1926–27 either, and the depreciation rate was also too low then. Possibly the machine industry was subsidized in 1948, but we have no evidence on this.

Let us stop at the point reached, namely, at selling prices of machinery in 1948 about a third as high as they should have been. The machines were sold at these prices and then depreciated by the buying enterprises at a rate, say, only 60 percent of what the depreciation rate properly should have been. Then the enterprises using this machinery had an outlay on depreciation only one-fifth of what it should have been—this in addition to being free from interest and rent charges, and not being required to yield an adequate profit.

The described situation was to be fundamentally changed again in 1949, it was announced. As in 1936, the government decided to abolish subsidies for good, and great importance was assigned to the measure. According to the order, subsidies to in-

[47] In 1940, the percentage was 59.8 (Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 47), but it included depreciation, and moreover it declined later.

dustry and transport had to be eliminated basically in 1949, fully in 1950. Vladimirov wrote:

> The system of state subsidies, which was necessary in the years of patriotic war and in conditions of postwar reorganization of the economy, became a brake on the further development of the national economy. It violates the principle of khozraschet—measurement of input and results of production, the coverage of expenses from own resources. The system of state subsidies creates in the enterprises the habit to exist at the expense of the state budget, weakens the stimulus for the struggle to reduce costs, is in contradiction with the task of strengthening the Soviet ruble.[48]

In contrast to the situation in 1936, when great caution was exerted not to raise prices too high, the price increases of producers' goods in 1949 were unrestrained. All civilian producers' goods have probably become profitable; many have become so profitable that one can rightly speak of profiteering. The great change is apparent from the fact that the total state appropriations for industry, minus those for the investment into its fixed and variable capital, were expected to fall from 45.5 billion rubles in 1948 to 13.9 billion in 1949.[49] Net profits of the industry were scheduled to increase from 22.7 billion rubles in 1948 to 41.4 billion in 1949, and the expected increase in profits must have come exclusively from producers'-goods industries; the profits of the consumers'-goods industries probably even declined.

As in 1936, the 1948 decision to abolish subsidies was never realized. Instead of the subsidies to those industrial branches which continued to show a deficit in 1949 being abolished in 1950, the number of subsidized industrial goods was expanded by the price reductions of that year. It is probably safe to assume that at least the all-important machinery industry, as well as the iron and steel industries, has become a deficit enterprise. Lack of exact data on the prices established in 1950 prevents further analysis.

Munitions.—Although armaments are classed as producers' goods in the USSR, it is erroneous to assume that the changes in munitions prices always followed the changes in prices of civilian producers' goods. The 1941 Plan gave the following schedule for the munitions (defense) industry: production costs, 32,838

[48] Vladimirov, *op. cit.*, p. 31.

[49] Zverev, "State Budget of the 4th Year of the Postwar Stalin Five-Year Plan Period," *Planned Economy*, 1949, No. 2, pp. 42-45.

million rubles; reduction in production costs, 11.1 percent; value of output, 40,300 million rubles (Appendix Table III). Hence the profit expected in 1941 was over 20 percent, and that realized in 1940 was possibly a little over 10 percent. This obviously indicates quite satisfactory prices for the goods involved.

The prices of munitions are supposed to have been cut to less than half during the war.[50] The claimed great increase in output per man in the munitions industry—attained, it is said, through methods of mass production and by simplification—may have offset a substantial part of the additional cost (large wage increases!), but it could not have permitted any cuts in prices. Munitions industries must indeed have become subsidized during the war.

It has been assumed that no changes occurred in the prices of munitions after the war—until at least the end of 1948.[51] The amount of subsidies per unit of munitions output must indeed have increased with the probable increase in production costs in those years.

The assumption was made above that the great boost of prices of civilian producers' goods in 1949 eliminated subsidies to them. One wonders, therefore, why the total appropriation for industry from the 1949 budget (75.5 billion rubles) minus the appropriations from the same source into fixed and variable capitals of the industry (52.8 and 8.5 billion rubles respectively) still yielded a sizable balance (13.9 billion rubles), which must have been intended almost exclusively for subsidies (unless it was used for the atomic bomb). Subsidies to what?

The budgetary incomes from turnover taxes declined from 1948 to 1949 by 3.4 percent. Retail turnover increased 20 percent by volume, it is officially claimed.[52] Considering the moderate price cuts, this implies an increase, though small, in total turnover and a certain adjustment of turnover taxes to the increase in production costs in the face of reduced selling prices.

With the producers'-goods industries making big profits and the consumers'-goods industries having been compensated, if only in part, for the additional expenses, one is inclined to assume

[50] See the official evidence in Jasny, *The Soviet Economy during the Plan Era*, pp. 52–53.

[51] *Ibid.*, pp. 54–55.

[52] Report of the Central Statistical Office, *Pravda*, Jan. 18, 1950.

that those types of producers' goods whose prices never were, and still are not, disclosed did not participate in the price rise at all, or participated in it only to a small extent. Munitions predominate in these goods.

The assumption that the prices of munitions did not rise in 1949, or rose only slightly, is supported by the fact that the direct appropriation for the armed forces was raised only from 66.1 billion rubles (plan for 1948) to 79.1 billion rubles (plan for 1949; actual expenditure, 79.2 billion rubles). Some expenses of the armed forces had inevitably to rise because of the boosts in prices of producers' goods, purchased also by the armed forces, and in railway rates. The remainder of the additional appropriation, if any, obviously did not leave room for an increase in prices of munitions at all in proportion to the rise in prices of raw materials and in freight rates. Since one has to assume, in view of the political developments, that the appropriation for the armed forces in physical terms rose substantially in 1949, it seems justified to believe that the prices of munitions remained unchanged in 1949.

If it is assumed that munitions shared in the price rises of machinery in 1949, it is logical to assume that they also shared in the 1950 price reductions. Seeing that the price level of civilian machinery was cut to below the 1948 level by the two 1950 price reductions, it would seem extremely unlikely—political skies being as dark as they are—that after July 1, 1950 the prices of munitions were higher than in 1948. If this analysis is correct, the deficit of the munitions industries must be large. The 1951 budget seems to have provided a considerable—although, as usual, undisclosed—fund for such expenses.

CHAPTER V

PHANTOM "UNCHANGEABLE 1926–27 PRICES"

The so-called "unchangeable 1926–27 prices" gradually deteriorated to such an extent that long before their final abolition, if they were entirely abolished, data expressed in them did not deserve to be called statistics. An idea of the degree of the ever increasing exaggeration of these data is indispensable for analysis of the Soviet economy, especially in view of the continuing, almost universal, use of the indexes expressed in those prices.

Here we shall designate as *real* 1926–27 prices either prices which actually existed in that year, or, so far as new goods or new models of old goods introduced after that year are involved, prices which are in line with the prices of then-existing items on the basis of input of direct and indirect labor. The 1926–27 prices used for the most important Soviet indexes and referred to as "unchangeable 1926–27 prices" began to depart from the real 1926–27 prices soon after the beginning of the Plan era. By the time World War II started, over a decade later, while the prices used in the indexes still were the real 1926–27 prices for some goods, other goods were priced many times higher than would have been appropriate, and there was a range downward from that degree of exaggeration. The weighted rate of exaggeration continued to rise during and after the war. The great "freedom" that writers enjoy in the USSR is well known. Nevertheless, the "unchangeable 1926–27 prices" ultimately fell into such disrepute that even a Soviet writer could speak slightingly of them, as in the sentence: "The industrial output in the *so-called* unchangeable 1926–27 prices is to exceed in 1950 the level of 1940 by 48 percent"[1] (my italics).

The habit of referring to the 1926–27 prices used for the indexes as "unchangeable" developed early in order to emphasize the (nonexistent) comparability of the indexes computed in those prices. The more the "unchangeable 1926–27 prices" departed

[1] A. M. Alexandrov, *Finances and Credit of the USSR* (Moscow, 1948), p. 53.

from their real base, the more was emphasis put on their "unchangeable" nature and the less on the fact that the prices were those of 1926–27. Ultimately the 1926–27 prices were often referred to simply as "unchangeable," with utter disregard of the fact that the year 1926–27 had anything to do with them.[2]

The need creates the thought. The absurdity that rising prices were called "unchangeable" fostered the idea that the prices involved are unchangeable because, once established (this event occurring in any year from 1926–27 nearly to the present time), they thereafter remain unchanged. This, of course, is true so far as concerns each specific model of a given commodity. Price revisions owing to increased production costs did not affect the "unchangeable prices." However, in actual practice, "unchangeable prices" of many goods, especially of machinery, changed (with the changes in models) more frequently and more markedly than the current prices of the basic industrial raw materials or the prices paid by the state to the producers of farm products—both of these groups of prices not being referred to as unchangeable.

It was shown[3] that in 1937 and 1940 all private expenditures of the population (including consumption in kind), deflated to the real 1926–27 price level, amounted roughly to 23 and 25 billion rubles respectively. Since the official estimates of the national income in "unchangeable 1926–27 prices" are 96.3 and 128.0 billion rubles respectively, the above figures imply that as much as 70 and 100 billion rubles were used in 1937 and 1940 respectively for investment, armed forces, and other government expenses—the last two items not including the wages of the personnel or subsistence of the armed forces, already taken care of under private expenditures. The conclusion is so obvious an absurdity that no other proof is needed that the indexes in "unchangeable 1926–27 prices" are great overestimates, that indeed the "unchangeable 1926–27 prices" and real 1926–27 prices long ago became quite different things. There is, however, plenty of other evidence to the same effect.

[2] Ya. Joffe, *Planning of Industrial Production* (Moscow, 1948), pp. 91 ff.; Voznesenskii, *War Economy of the USSR during the Patriotic War*, pp. 11, 12, and others.

[3] Jasny, *The Soviet Economy during the Plan Era*; see table on p. 85.

The presence of an upward bias in the indexes at 1926–27 prices has gradually been recognized by almost every student outside the USSR. Even the Economic Commission for Europe of the United Nations felt the necessity of mentioning that the "method of calculating the general index of production at present in use may give a certain upward bias";[4] several statements of Soviet economists (but no names) were cited as authority. While unofficial authors in the United States and other non-Soviet countries mostly do not resort to the qualifications "may" and "certain,"[5] the qualifications most frequently used do not give even a faint idea of the true magnitude of the bias. Clark[6] and Wyler[7] are conspicuous exceptions.

Since the true magnitude of the upward bias implied in the data in "unchangeable 1926–27 prices" is usually not visualized even by those who recognize its existence, the use of official indexes computed in those prices without adjustment, or with very inadequate adjustment, is common practice among students of the Soviet economy.[8] The same is true of the international organizations, such as the United Nations, the Food and Agriculture Organization, and the International Labour Office.[9] Indexes of the large-scale industrial output have even been reproduced with two decimals—a procedure not usual in the USSR—and thus given the outward appearance of material of the highest reliability.[10] On another occasion the indexes of industrial production in post-

[4] United Nations Dept. Econ. Affairs, *A Survey of the Economic Situation and Prospects of Europe* (Geneva, 1948), p. 149.

[5] However, Abram Bergson qualified his corresponding statement with "probably." See "The Fourth Five Year Plan: Heavy versus Consumers' Goods Industries," *Political Science Quarterly*, June 1947, LXII, 199–200. Alexander Baykov is even more reserved, admitting only that "it is possible that the figures of [industrial] production expressed in [1926–27] rubles tend to show a somewhat greater tempo of increase than would be justified by the physical increase." See *Bulletin of Soviet Economic Development* (University of Birmingham, England), May 1949, I, 9.

[6] Clark, *A Critique of Russian Statistics*, and "Russian Income and Production Statistics," in *Review of Economic Statistics*.

[7] Wyler, "The National Income of Soviet Russia," in *Social Research*.

[8] See Jasny, "Soviet Statistics," *Review of Economics and Statistics*, February 1950, XXXII, 92–99.

[9] See Jasny, "International Organizations and Soviet Statistics," *Journal of the American Statistical Association*, March 1950, XLV, 48–64.

[10] Alexander Gerschenkron, "The Soviet Indices of Industrial Production," *Review of Economic Statistics*, November 1947, XXIX, 218, and "The Rate of Industrial Growth in Russia since 1885," in *The Tasks of Economic History, Journal of Economic History*, Supplement VII, 1947, p. 161.

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war years, available only in the form of percentage increases from year to year, were subjected to an algebraic treatment,[11] which would have made sense only if the official data, besides being trustworthy, contained decimals, which they do not.

It is irrelevant that the bias embodied in the official method of establishing the "unchangeable 1926–27 prices" of new goods was not deliberate from the very start. The distorting effect of prices thus established must soon become all too clear to those who came into even casual contact with them. Also it does not matter that the biasing effect of those prices was pointed out occasionally by a few Soviet writers; this occurred in a cautious manner in special journals or monographs not widely accessible. The distorted indexes in terms of "unchangeable 1926–27 prices" have been used exclusively in all official pronouncements, such as in laws, in five-year, yearly, and other plans, in statistical handbooks, and in reports and speeches of high officials, like Stalin[12] and Molotov.[13] On none of these occasions was it even hinted that the data were not absolutely comparable. On the contrary, the "unchangeable" nature of the 1926–27 prices, the comparability of data in those prices, was frequently emphasized. Joffe, who, with an analysis on pages 91–92 of his book,[14] dug a grave for those prices, displayed on pages 42–52 all the familiar Soviet paraphernalia of achievements as reflected in the indexes in terms of "unchangeable 1926–27 prices."

The upward bias of the 1926–27 prices originated in the practice that goods not produced in 1926–27 later came to be included in the value computed at "unchangeable 1926–27 prices" at their cost of production in current prices to each factory in the first year of their introduction.[15] These prices were unreasonably high, because in the first year of introduction the output of most goods is bound to be more or less in the experimental stage. After about 1930, another biasing factor was added

[11] Harry Schwartz, "Soviet Postwar Industrial Output," *Journal of Political Economy*, October 1948, LVI, 438–41.

[12] See Joseph Stalin, *Problems of Leninism* (11th ed., Moscow, 1947), pp. 441–43, 576.

[13] See, for example, V. Molotov's report introducing the 3d Five-Year Plan, in *Problems of Economics*, 1939, No. 3, pp. 51–52.

[14] Joffe, *Planning of Industrial Production*.

[15] See Paul Studenski and Julius Wyler, "National Income Estimates of Soviet Russia—Their Distinguishing Characteristics and Problems," *American Economic Review*, May 1947, XXXVII, 604–05.

in that inflation was raising all production costs, and consequently also the production costs of new commodities. A 1935 current price of a new commodity would be higher than its 1930 price would have been had it then been produced.

Sometime during the 2d Plan Period, the practice of setting "unchangeable 1926–27 prices" on new goods was changed in that they were established not for and by each factory, but uniformly for all factories and by the central government.[16] However, the prices continued to be established on the basis of cost in the year they were established. Joffe, an authoritative writer, said in 1948:

> If there is no established unchangeable [1926–27] price on certain goods, for example, on products not produced before, the unchangeable price is based on the planned cost of production for a time of established mass production with a correction.[17]

Joffe neglected to explain the type of correction involved, but he added (p. 92) that, while a correction is made, the established unchangeable prices "differ little from the prices of the current years."

The preceding discussion pertains to industrial products. No 1926–27 price of a new farm product has been discovered. The existence of such prices in print is very unlikely, since the calculation of the agricultural output in 1926–27 prices is, or was, reserved for the Central Office of National-Economic Accounting of the Gosplan. Nor is it possible with reference to such new farm products as rubber plants, certain minor oilseeds, or certain aromatic plants, which account for a negligible proportion of the total agricultural output, to discover any overestimation of them in terms of 1926–27 prices by way of analysis of the data on values of total agricultural production or even values of all technical crops, the group which includes the new items. Yet in view of the established practice with reference to industrial products, it seems rather improbable that, in computing the value of the agricultural production, the central statistical

[16] According to the second edition of the *Dictionary-Handbook on Social-Economic Statistics*, p. 79, the change in the system occurred in 1933. However, according to D. Savinskii (*Course of Industrial Statistics*, Moscow, 1949, pp. 86–87), the transition from individual to all-Union 1926–27 prices of new goods occurred in 1936, and then only for the majority of such goods.

[17] Joffe, *op. cit.*, p. 91.

agency would neglect this easy way of boosting output. Along with the new crops, new breeds of animals, possibly also new seed, might well be regarded as new products and have high "unchangeable 1926–27 prices" assigned to them.

Having felt certain that the official indexes in "unchangeable 1926–27 prices" are great exaggerations, the present writer spent months in search of material which at once would serve as proof of the exaggeration and would also permit a reasonably exact appraisal of its extent. A number of possible approaches were tried: prices of the same goods in both "unchangeable" and current prices were located; increases in output of finished goods in "unchangeable prices" were related to the increases in output of raw materials in physical terms and in transported freight; values of output at current prices were reconstructed via official data on the distribution of the production costs by items for the later deflation with the help of price indexes; the rise in the proportion of contribution of industry to national income (added value) to the gross value of the industrial output in "unchangeable 1926–27 prices" checked on its probability; and so on. Last but not least, the Soviet material was scanned closely for slips which would disclose the results of recalculations (undoubtedly in existence) of the fake official figures to real ones by Soviet officials themselves.[18]

Not all the time so spent was wasted. But the significance of the findings was much reduced after access to the supplement to the 1941 Plan became possible. This volume, released with the instruction "not to be disclosed," contains data on the value of the industrial output in both "unchangeable 1926–27" and current prices, together with estimates of production costs in current prices. In their aggregate, these data fully disclose the misleading nature of the "unchangeable 1926–27 prices."

INDUSTRIAL OUTPUT ACCORDING TO THE 1941 PLAN

The pertinent data from the supplement to the 1941 Plan are presented in Appendix Table III. The value of the total industrial output (planned for 1941) at current prices there appears to be

[18] The first results of this search were presented in Jasny, "Intricacies of Russian National-Income Indexes," *Journal of Political Economy*, August 1947, LV, 299–322.

about 2.5-fold that at "unchangeable 1926–27 prices." But this is, in the first instance, a reflection of the proceeds of turnover taxes, which are present in the estimate at "unchangeable 1926–27 prices" only to a small extent but which make up a large part of the value in current prices. If the output of the six commissariats mainly engaged in the output of consumers' goods and of the Commissariat of the Petroleum Industry, wherein turnover taxes (in output at current prices) bulk largest, is deducted from the total output, the balance is 117.5 billion rubles at "unchangeable 1926–27 prices" and 170.7 billion rubles at current prices. Thus the excess of the value in current prices over that in "unchangeable prices" shrinks from 2.5-fold to less than 1.5-fold. But the value of the industrial output at current prices still contains a considerable amount of turnover taxes even after the output of the seven commissariats has been deducted.

It may be stated at this point that in 1940 the prices of all producers' goods, tax-free, were about 150–175 percent above those of 1926–27. If this percentage is applied to the above balance of 170.7 billion rubles, the value of the industrial output represented by it appears to have been only 60–68 billion rubles at real 1926–27 prices. The total value of all output of industry at real 1926–27 prices seems unlikely to have been very much higher than this; for, although the value of the output of the seven commissariats would have to be added, part of the turnover taxes still present in the value of the output at current prices of the remaining agencies would have to be subtracted.[19]

Machinery.—The primary item in overestimation of the growth of industrial output in terms of "unchangeable 1926–27 prices" is machinery. This overestimation turned out so large as to exceed the writer's expectations. Those who had the data on machinery output in both "unchangeable 1926–27 prices" and current prices, and yet used the former for the computations of indexes of industrial production, are guilty not of ignorance or negligence but of *deliberate falsification*; but, of course, in the USSR they have no choice. Let us tabulate the data specifically on machinery, without and with the output of the defense indus-

[19] Not in full, because the real 1926–27 prices also contain moderate amounts of tax incomes.

tries, most of which also are classed as machinery in the USSR (data in million rubles, from Appendix Table III):

Commissariat	Value, "unchangeable 1926–27 prices"	Production costs, current prices	Value, current prices
Heavy machinery	3,780	4,440	4,752
Intermediate machinery	8,850	8,750	9,810
General machinery	2,730	2,440	2,875
Electric industry	4,141	3,676	4,032
Total	19,501	19,306	21,469
Defense industries	31,880	32,838	40,300
Grand total	51,381	52,144	61,769

Thus, in spite of the considerable intervening inflation, the production costs of machinery in 1941 as planned, were equal to its value in "unchangeable 1926–27 prices." The difference was small in the case of machinery including munitions. The value of the output in "unchangeable 1926–27 prices" was only 9 percent below the value of the civilian machinery in current wholesale prices in 1941, of which a little over 1 percent was turnover tax.[20] Furthermore, the data on the value of machinery in "unchangeable 1926–27 prices" and in current prices, in conjunction with the evidence of the 1941 Plan on the expected reduction in production costs, indicate that in 1940 the value of the output of civilian machinery in current prices was at most only a little higher than in "unchangeable 1926–27 prices."

The price index of civilian machinery stood at about 190 (1926–27 = 100) in 1940, according to the writer's computations. Hence, the output of civilian machinery was overvalued in "unchangeable 1926–27 prices" by almost the 90 percent in 1940.

The 1941 returns for munitions in current prices were scheduled to be higher than in "unchangeable 1926–27 prices" by 26.4 percent, and the cut in production costs was set at 11 percent. Hence, assuming no changes in the prices of munitions in 1940, or similar changes in "unchangeable 1926–27 prices" and current prices, the current prices of munitions were only a little more than 10 percent above the "unchangeable 1926–27 prices" in 1940. But the weighted current prices of munitions in 1940

[20] Machinery in general paid a tax of 1 percent. The consumers' goods with high taxes produced by the four commissariats represented a negligible share of their total output. See *1941 Plan, Supplement*, p. 168.

are likely to have been higher than those of machinery, relative to the 1926–27 base; i.e., their increase is likely to have been larger than 90 percent. For "munitions" include such goods as clothing, which, even if taxed as occupational clothing (for the prices of occupational clothing, see p. 41), had risen in price perhaps 5-fold since 1926–27. Moreover, it is possible that even such munitions as are classed as machinery in the USSR included in 1940, on the average, more new models than did civilian machinery and were, therefore, relatively more expensive in current prices than the latter. Hence the overvaluation of the output of all munitions in "unchangeable 1926–27 prices" may not have been smaller than it was in the case of civilian machinery, in spite of the greater profit shown by munitions in current prices in the 1941 Plan. They may indeed have been overvalued more.

Thus the overestimation of civilian machinery and munitions alone brought about an exaggeration of the value of the total 1941 industrial output in "unchangeable 1926–27 prices," as scheduled in the 1941 Plan, of close to 25 billion rubles. The corresponding figure for 1940 was less in proportion to the smaller output of these industries in that year.

Other groups of commodities.—The great overvaluation of machinery (including armaments) in "unchangeable 1926–27 prices" was obvious from the otherwise unexplainable tremendous increase in its output in those prices relative to increase in output of raw materials in physical terms.[21] It was, however, impossible to demonstrate the similar overestimation of other goods by such a direct approach. The *1941 Plan, Supplement*, is particularly valuable because it shatters the idea that machines were the only goods overvalued in "unchangeable 1926–27 prices." Machinery turns out to have been merely the most conspicuous and the most overestimated category of goods. The data of the Plan show a more or less substantial overestimation for all commissariats or other agencies whose output is sufficiently free of turnover tax to permit interpretation—with only one exception (nonferrous metals).

The 1940 value of output of the Commissariat of Coal in terms of "unchangeable 1926–27 prices" exceeds that in current

[21] Jasny, "Intricacies of Russian National-Income Indexes," *Journal of Political Economy*, August 1947, Vol. LV, Chart I, p. 314.

rubles by only 133 percent, although even the prices of the principal coals on the average increased more than 3-fold after 1926–27 and the prices of secondary coals rose even more.[22] Either some secondary coals not produced in 1926–27 were valued very high in "unchangeable 1926–27 prices," or some agencies were receiving secret discounts from the prevailing official prices. The first possibility seems the more likely.

The ratio between the 1940 values in the two sets of prices for the iron industry (2.1 to 1), as shown in Appendix Table II, is also less than the price rise of common steel between 1926–27 and 1940.[23] This makes probable very high "unchangeable 1926–27 prices" on steels, the output of which started some time after 1926–27 (mainly high-quality steels).

The value of the output of the Commissariat of Building Materials—which does not take care of forestry products—in current prices was expected, in the 1941 Plan, to exceed that in "unchangeable 1926–27 prices" by only 75 percent, in spite of the fact that the index of the current prices of building materials other than lumber and timber stood at perhaps 250 (1926–27 = 100) and that part of the output of this commissariat was to be sold in the "broad market" at high prices.

The ratio of the value of forestry products in current prices to that in "unchangeable 1926–27 prices," 2.1 to 1 as shown in Appendix Table III, is fairly in line with the increase in current prices of these materials as sold to state enterprises and organizations. But a substantial part (by value) of the output of forestry products is sold to private consumers at high prices. Thus the weighted return for all these products at current prices rose after 1926–27 measurably more than in the proportion of 2.1 to 1; and this of course implies an overestimate of the output of the Commissariat of Forestry Products in "unchangeable 1926–27 prices."

Similar comparisons, which need not be gone into here, would show overestimations in "unchangeable 1926–27 prices" for the Commissariats of Chemical Industry[24] and of Paper Indus-

22 For specific data see Jasny, *Soviet Prices of Producers' Goods*, chapter iv.

23 For specific data see *ibid.*, chapter v.

24 With reference to the current prices and production costs of the chemical industry, it must be considered that some of its products, such as varnish, are extremely heavily taxed and that the taxes on the raw materials greatly affect the costs of this commissariat. The large proportion of turnover tax in the value of the chemical industry at current prices is evident

try.[25] A comparison of the value in "unchangeable 1926–27 prices" and production costs in current prices indicates an overestimate also of the output of the Commissariat of Petroleum Products.

Nonferrous metals are the exception mentioned above. There seems not to have been as large an increase in current prices of nonferrous metals as is shown in the ratio of the value in current prices in the 1941 Plan to that in "unchangeable 1926–27 prices." The writer is unable to explain the discrepancy.[26]

It is not helpful here to analyze similarly the output of other commissariats, because the share of turnover tax in the value of their output at current prices, and even in their production costs, was too large to permit significant conclusions.

Individual commodities.—Since the values of the 1941 output were expected to be only a little lower at current than at "unchangeable 1926–27 prices" for *whole* commissariats, and the same was true even of expected production costs, the "unchangeable 1926–27 prices" of *certain individual commodities* must have greatly exceeded both their production costs and their current prices. Unfortunately, only a few isolated figures could be uncovered, all of them pertaining to motor vehicles.

The KhTZ tractor, a wheel tractor of 15 horsepower on the hook, a reproduction of the 15/30 of the International Harvester Company, was introduced in 1931 and had an "unchangeable 1926–27 price" of about 5,500 rubles.[27] Its production cost in 1935, however, was only 3,106 rubles.[28] The production costs of the truck GAZ-AA, whose "unchangeable 1926–27 price" may have been over 11,000 rubles,[29] was 9,743 rubles in 1932. This declined to 4,993 rubles in 1933.[30] In 1935, it was 3,525 rubles, and in January–February 1936, only 3,385 rubles.[31] The production cost of the truck ZIS-5, introduced in 1933 and having an

from the fact that the 1941 Plan expected for it the large yearly output of 28,855 rubles (current prices) per worker (see *1941 Plan, Supplement*, p. 517).

25 Paper which goes to the private consumer is, of course, heavily taxed, and this raises the difference between "unchangeable 1926–27 prices" and current prices.

26 The output of the high-priced consumers' goods by the Commissariat of Nonferrous Metals was too small to have been of importance. See *1941 Plan, Supplement*, p. 168.

27 Jasny, *The Socialized Agriculture of the USSR*, pp. 719–21.

28 *Plan*, 1936, No. 9, p. 8.

29 Jasny, *The Socialized Agriculture of the USSR*, pp. 718–19.

30 S. Rozovskii, "Machine Industry and Metal Processing in 1934," *Planned Economy*, 1934, Nos. 5–6, p. 38.

31 *Plan*, 1936, No. 9, p. 8. The source speaks simply of the GAZ trucks, but apparently no other GAZ trucks than the GAZ-AA were produced then.

"unchangeable 1926–27 price" of 11,000 rubles, was only 4,764 rubles in 1935, i.e., merely two years after introduction, according to the same source.

Although the vehicles were sold at a profit, the selling prices in the inflated current prices were also regularly and substantially below the "unchangeable 1926–27 prices." In 1936, the tractor KhTZ was sold for 4,105 rubles, the truck GAZ-AA for 5,878 rubles, and the truck ZIS-5 for 10,200 rubles.[32] The GAZ-AA was selling for 7,000 rubles, considerably below its "unchangeable 1926–27 price," as late as the end of 1945,[33] in spite of repeated increases in the prices of raw materials and the continued rise in wages.

With reference to some other individual goods, notably other machines, a great excess of their "unchangeable 1926–27 prices" over their current prices is made certain by the persistent claims of great cuts in production costs. A good gets its "unchangeable 1926–27 price" in the year of introduction at about the level of its production cost and current price. Production costs of many new goods decline sharply in succeeding years, and the current price may be sliced proportionately, but the "unchangeable 1926–27 price" remains standing like a rock.

Soviet cost-of-production data computed at current prices are understandable only if one considers that after 1932, possibly also in earlier years, the official computations are made for the so-called comparable output, i.e., for goods produced in both years or periods for which the comparison is made. Goods introduced in the second of the years or periods, i.e., those with the highest costs, are not in the comparison. Price and other cost increases are not allowed to affect the comparison. These widely advertised production-cost data are among the most misleading in Soviet statistics. Year after year, cuts in production costs of such proportions are claimed that ultimately almost no costs whatsoever would have been involved. Cost reductions, incidentally, are specified even when their source is obviously deterioration of quality. Illustrations are the increased content of water in bread and sausage; reduction in the thickness of walls of houses beyond what is tolerable for the climate; use of inferior substi-

[32] Trust Mosgortop, *Reference Book of Prices* (Moscow, 1936), p. 7.
[33] Government Order No. 14298-p of Sept. 26, 1945.

tutes, especially in the early 'thirties and during the recent war; etc. But all this is minor. The principal reason for the remarkable phenomenon is that the high production costs in the first year of introduction of specific models are permitted to affect the figure in the first period for which the comparison is made but do not affect the figure for the second such period.

While the nature of the Soviet cost-of-production data precludes their use for ascertaining changes in labor productivity, they are usable for the purpose for which they are employed here, since they throw light on reductions in the cost of newly introduced machines in subsequent years. One must, of course, be careful even in this use.

Data on the reductions in production costs of machinery are most illuminating. The production costs of "general machinery" declined by 32.0 percent during the 1st Plan Period, of electrical equipment even by 36 percent (in 1925–32 the decline in the latter is supposed to have amounted to 75 percent).[34] According to the author quoted in the footnote, production costs in machine output were declining year after year between 1924–25 and 1932. Strong declines continued also in the succeeding Five-Year Plan Periods (in 1935 and 1936 with greatly increased force)[35] and during the war, and are still in progress.[36] All this obviously could have taken place only because the composition of the machine output for which the computations were made was changing rapidly. According to Joffe, the comparable machine output in any one year is only 50–60 percent of the total.[37]

The claimed savings in production costs were mostly at the expense of newly introduced machines. The same source, from which the cut in production costs of the GAZ-AA in 1933 was cited above, mentioned four other machines, or their parts, with declines in production costs of 42.3, 44.6, 57.2, and 60.1 percent in one year. Rozovskii, the author, himself emphasized that new machines played a very great role in the fact that the plan for

34 Sh. Turetskii, "To the Analysis of Qualitative Indicators of National Economy," *Planned Economy*, 1934, No. 7, p. 103.

35 Turetskii, *Intra-Industrial Accumulations in the USSR*, pp. 24–27.

36 *Ibid.*, pp. 161, 222.

37 Joffe, *op. cit.*, p. 107. In 1940, the machine output directly comparable in production costs to that of 1932 amounted to 30 percent of the total. See Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 380.

reducing production costs in machinery output in 1933 could even have been exceeded.

Analysis of a great deal of data on machinery prices for *Soviet Prices of Producers' Goods* shows the persistent tendency for new models of machines to retain their current prices for many years in spite of the inflation. Even reductions in prices were not rare; and some of these were drastic. Steam turbines of 25,000 horsepower cost 33–40 percent less in 1940 than in 1932—an additional indication of the high selling price established when the model was first introduced. In 1932 the "unchangeable 1926–27 prices" equaled or, in any case, differed little from the selling prices, but they remained at this high level subsequently even though production costs and selling prices declined.

Individual armaments.—The possibility exists that certain types of munitions, the output of which expanded greatly during the war (a fact that makes the topic important), were even more overvalued in 1940 in terms of "unchangeable 1926–27 prices" than were corresponding types of civilian machinery. The explanation would again be that these types of munitions were introduced later and they naturally carried higher "unchangeable 1926–27 prices" than comparable types of civilian machinery, unless there was a deliberate policy to undervalue munitions. The only available Soviet evidence seems at first glance to point toward such a policy, though further analysis makes one doubt it. Turetskii writes:

> The labor requirements of a tractor exceed those of a middle-sized tank; the labor requirements of a tank exceed those of a middle-sized cannon; the labor requirements of farm machinery are greater than those of ammunition, and so on. To produce civilian machinery for the sum of 1,000 rubles, 1.4–1.7 times as much labor was used before the war as on the output for the same sum in unchangeable [1926–27] prices of munitions during the war.[38]

At a later point he says:

> The input of new labor for the output of a locomotive and tractor is 1.7 to 2-fold higher than the input of labor on the output of a tank (per 100 rubles of gross production in unchangeable [1926–27] prices), and the total input [cost] is correspondingly higher . . . by 40–50 percent.[39]

As can be observed, Turetskii compares the input of labor

[38] Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 169.
[39] *Ibid.*, p. 377.

into civilian machinery and the production costs *before* the war with the same factors for munitions *during* the war. Very large cuts in production costs and increases in labor productivity are, however, claimed for the munitions industry during the war years. Again according to Turetskii,[40] the input of labor into the most important types of munitions was, on the average, cut at least 40 percent.[41] The production costs in the whole machinery industry (certainly including most of the munitions and ultimately consisting almost exclusively of munitions) are supposed to have declined 24 percent from 1940 to 1941, 17 percent from 1941 to 1942, and a further 9 percent from 1942 to 1943.[42] The aggregate of these percentages is a decline of not less than 42.6 percent from 1940 to 1943.[43]

A few months ago the writer would not have ventured to say that these percentages, and especially their aggregate, are absurd; now, having seen the 1941 Plan, he can say it confidently. Under the assumption of absence of hostilities and consequently the continuation of the normal functioning of the economic apparatus, the Plan scheduled declines in production costs of 11.1 percent for munitions and 5.3–8.0 percent for the various commissariats of civilian machinery.[44] It would obviously be unreasonable to assume that production costs of all machinery (including armaments) declined 17 percent in that year in spite of complete disorganization in its second half—disorganization known from various sources and officially acknowledged in Voznesenskii's book. The claimed big declines in production costs and labor input into the munitions during the war are another demonstration that the Soviet indexes of production costs and labor productivity are very poor—so poor, indeed, that they do not deserve to be called indexes.

40 Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 88,

41 See in Voznesenskii, *War Economy of the USSR during the Patriotic War*, (pp. 114–15) data on the large reductions of labor input in certain individual armaments (certainly in those which showed the greatest increases).

42 *Ibid.*, p. 134.

43 The figure is so fantastic that one would have to assume some trick in Voznesenskii's wording and that actually the decline in costs as officially counted was only by 24.5 percent (this interpretation would imply an *increase* in costs from 1941 to 1942). But Turetskii (*Intra-Industrial Accumulations in the USSR* p. 100), gives the same data as Voznesenskii and does this in a form which excludes any other interpretation than that of a decline of 42.6 percent.

44 Part of this, such as automotive vehicles, also was destined for military purposes.

Turetskii himself says, with reference to his comparisons of production costs and labor input for civilian production *before* the war and for the munitions output *during* or *after* the war only, that "such comparison is not entirely justified."[45] If he had taken literally the official data on the cuts in production costs and labor input in the munitions output during the war, he would have abstained from comparisons altogether.

Thus, while all this is very uncertain, we are inclined to assume that in 1940 the munitions industry was putting out certain new goods more overpriced in "unchangeable 1926–27 prices" than similar civilian products. The fact that the 1941 Plan expected the greatest cuts in production costs in the munitions industry (11.1 percent as against 5.3–8.0 percent for machinery of the various commissariats and 3.7 percent for the whole output of the industrial commissariats)[46] is additional evidence. New armaments may have been overpriced relative to similar machinery in current prices as well.[47]

GOALS AND ACHIEVEMENTS IN MONETARY AND IN PHYSICAL TERMS

Huge disparities can be observed between increases in industrial output computed at "*unchangeable 1926–27 prices*" and increases in output of the principal raw materials measured in *physical terms*. The increases in physical terms are by far the lower. Disparities are especially large between increases in the output of machinery in money terms, and output of steel and coal in physical terms.[48] All the improvements in the utilization of fuel and raw materials and the increases in the rate of fabrication of raw materials can account for only a fraction of the great discrepancies observed.

[45] Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 169.

[46] As usual, the cuts were expected and made primarily at the expense of recently introduced goods, See, for example, Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 102.

[47] The writer has not forgotten that the total output of the commissariats of the defense industries appeared substantially less overpriced in "unchangeable 1926–27 prices" relative to current prices than did the outputs of the commissariats for civilian machinery (see tabulation, p. 100). This, however, may have been due to the fact that the output of the commissariats of defense industries included many goods other than armaments and munitions, the current prices of which were greatly in excess of the "unchangeable 1926–27 prices."

[48] See the upper part of Chart I in Jasny, "Intricacies of Russian National-Income Indexes," *Journal of Political Economy*, August 1947, LV, 314.

Moreover, the disparities are great also between the rates of fulfillment or nonfulfillment of the planned goals in *money terms* (1926–27 prices) and of the goals for the same goods in *physical terms*. It can clearly be demonstrated for a great number of items that goal fulfillment of the first three Five-Year Plans in physical terms was rare, and that the extent of shortfall was normally large. This was true of industrial goods[49] as well as of others. In terms of "unchangeable 1926–27 prices," however, the goal of the 2d Plan for industrial production was exceeded, while the shortfalls during the 1st Plan Period and during the peace years of the 3d Plan Period were negligible, as shown by the following figures (increases planned and attained in billion rubles at "unchangeable 1926–27 prices"):

Period	Goal	Fulfillment
1st Plan Period	26.0[a]	25.1[b]
2d Plan Period	49.9[c]	52.2[c]
3d Plan Period (peace years)	44.2[d]	43.0[e]

[a] Data for 1932–33.
[b] Data for 1932.
[c] Data for 1937.
[d] Data for 1940. Half of the total goal for 1942 was assumed to have been the goal for 1940.
[e] Data for 1940.

Not less revealing is the fact that vis-à-vis the great shortfalls in *physical terms* of the goals for all economic branches, with the sole exception of railway transport, the goals for national income in "*unchangeable 1926–27 prices*" were missed only by moderate or relatively moderate margins (increases in billion rubles at "unchangeable 1926–27 prices"):

Period	Goal	Fulfillment
1st Plan Period	25.3	21.1
2d Plan Period	54.7	50.8
3d Plan Period (peace years)	38.6	31.7

See footnotes to preceding tabulation.

The reasons why the goals for industrial output in money terms could be exceeded, reached, or missed by only small margins, while the goals were not fulfilled in physical terms, are that the physical units, of course, remained unchanged while the monetary units did not. So far as the computation in "unchange-

[49] See the table on p. 20 in Jasny, *The Soviet Economy during the Plan Era.*

able 1926–27 prices" is concerned, the goals were stated in the "unchangeable prices" of the base year of each Plan, while the *fulfillments were expressed in the higher "unchangeable prices" in force in the last year of the respective Plan Period.* Enlarged rates of fabrication could have been of some importance in the disparities between the increase in physical terms and money terms only during the 1st Plan Period, the degree of fabrication of certain goods having been expanded beyond what was planned.

So far as national income is concerned, numerous manipulations were needed, in addition to the manipulation implicit in the use of "unchangeable 1926–27 prices," in order that the goals in money terms might be nearly reached, in spite of the failures and shortfalls for practically every important item in physical terms.

BIAS OF THE "UNCHANGEABLE 1926–27 PRICES" AS REVEALED BY SOVIET STUDIES

One rather naturally seeks, in studying Soviet data, for some sort of inadvertent disclosure which at a stroke would indicate the bias of the "unchangeable 1926–27 prices," for obviously the Soviet analysts had to know the bias, they knew it, and they use this knowledge in their analyses.[50] The necessary information was found in Soviet computations on the size of Soviet industrial output and national income in comparison with those of other countries, specifically the United States. The computations involved are obviously of an official character.[51]

These data leave no doubt whatever concerning the existence

[50] One sometimes reads of "Jasny's estimates" of Soviet grain production in the 'thirties. This is inexact. While different approaches toward the estimating have been used by me, the basic one was a reconstruction from statements of Soviet authors who had the correct figures before their eyes. They stated only the percentages, not realizing the number of conclusions that could be drawn from them. Moreover, who knows but that some statistician was deathly tired of all the prescribed concealment and did not care if an observant reader went beyond what was offered him.

[51] USSR Gosplan, Institute of Economic Investigations, *USSR and the Capitalist World* (1st ed., Moscow, 1934), p. 28; Ya. Joffe, *USSR and the Capitalist Countries* (Moscow, 1939), pp. 8, 10, 20, a new edition of the 1934 publication; and M. Kolganov, "National Income of the U.S.S.R. and the Fundamental Economic Task," *Problems of Economics*, 1940, No. 4. The computations were apparently made by the Institute of Economics of the Academy of Sciences of the USSR alone or in co-operation with the Central Office of National-Economic Accounting of the Gosplan. The same data were used without mention of source by A. Notkin in *Problems of Economics*, 1940, No. 10, p. 49, as if they were common property. P. A. Baran's assumption ("National Income and Product of the U.S.S.R. in 1940," *Review of Economic Statistics*, November 1947, XXIX, 230) that "Kolganov ventured . . . estimates of national income for the U.S.S.R. and the U.S.A. . . ." is unlikely to be correct, for all these estimates are part of a big official study, in which Kolganov might or might not have participated along with others.

of a substantial upward bias in the "unchangeable 1926–27 prices." They also permit conclusions about the extent of overestimation. The writer's interpretation was that according to those data the "unchangeable 1926–27 prices" of industrial products by 1937 averaged about 50 percent higher than the real 1926–27 prices of those products.[52] This conclusion, originally arrived at without exhaustive investigation, was later substantiated by analysis which took a number of years to complete.[53] The procedure now is far from commanding the importance it rightfully had when it appeared.

CHANGES IN THE BIAS

With respect to the bias in "unchangeable 1926–27 prices" arising from overpricing new goods, Bergson voiced the following opinion:

> It is believed that this error materialized mainly in the prewar period, and probably for the most part in the period of the First Five-Year Plan. Hence the official figures may be used to measure roughly the changes in production in the period considered in this study, 1940–50.[54]

According to another writer, the bias exaggerates "mainly the industrial growth during the first and part of the second Five-Year Plans when an important part of total output had to be attributed to new products."[55]

Actually, the bias was in operation all through the first two Plan Periods, though little of it, if any, was in the first two years. It increased greatly after 1939, and attained huge proportions during the war. With the return of peace, there was first, in 1946, a strong deflation (in terms of "unchangeable 1926–27 prices," it must be noted!). Later the upward bias resumed its effect, but until 1949 it was probably smaller than in any other period.

52 This interpretation is implied in the fact that the 1934 edition of *USSR and the Capitalist World* estimated the share of the Soviet industrial production in world output in 1928 at 10.5 percent, while according to the 1939 edition it was only 6.7 percent. For the reasoning, see Jasny, "Intricacies of Russian National-Income Indexes," *Journal of Political Economy*, August 1947, pp. 307–10.

53 Baran (*op. cit.*) used the same material for computing the 1937 Soviet national income in dollars. However, he failed to express the conclusion, obviously implied in the data, that the Soviet national income is greatly exaggerated. See also *The Soviet Economy during the Plan Era*, pp. 38–39.

54 Bergson, "The Fourth Five Year Plan: Heavy versus Consumers' Goods Industries," *Political Science Quarterly*, June 1947, LXII, 200.

55 Baran, *op. cit.*, pp. 227–28.

The upward bias of the "unchangeable 1926–27 prices" was prevented from disappearing, indeed from slackening, and gradually has been made even stronger by a number of factors in addition to the continued introduction of new goods. As is natural, the output of the most important new goods, like tractors and automobiles, has been expanding considerably faster than the output of all industrial goods taken together. Another factor which tended to keep the bias alive was the ever growing inflation. The prices of all producers' goods, with the turnover tax excluded, rose perhaps 3-fold from 1930 to 1940.[56] If, in 1930, a new good was given an "unchangeable 1926–27 price" equivalent to double the price which it might reasonably have had in that year relative to the prices of other goods, this "unchangeable price" would have been not quite double the price the good should have had in real 1926–27 prices. A similar overvaluation by 100 percent, in 1940, was equivalent to putting on the good an unchangeable 1926–27 price about 5-fold the price the good should have in real 1926–27 prices. Even if it be assumed that the "unchangeable 1926–27 prices" of new goods did not exceed the fair prices of these goods in 1940 by so much (in percentage terms) as in 1930, the "unchangeable 1926–27 prices" of such goods must inevitably have been much higher relatively—at least 2-fold higher—in 1940 than in 1930.

Joffe's book published in 1948 implied a big bias, not in the distant past but at the very time of his writing. Joffe said of the "unchangeable 1926–27 prices" of the machine industry:

> In so far as the share of new production is exceptionally high in the machine industry and their prices are established on the basis of the cost of production of the present year with a correction, these prices in the majority of cases differ little from the prices of current years.[57]

The prices of current years obviously must have been high in view of the growth of inflation. In 1948, the output of the machine industry computed at "unchangeable 1926–27 prices" may have amounted to about one-third of the total industrial output computed at those prices. Hence the bias of the "unchangeable 1926–27 prices" would have been large for the whole industry, even in

[56] See Jasny, *Soviet Prices of Producers' Goods*, chapter i.

[57] Joffe, *op. cit.*, p. 92.

the obviously improbable case that nothing but machinery, here including armaments, was overvalued.[58]

When Baran stated that the bias operated mainly in the 1st and part of the 2d Plan Periods, he apparently thought that overvaluation was involved only with reference to entirely new goods. Joffe's evidence fully confirms the writer's view that the new products for which prices are established in the distorted way described above are not limited to entirely new goods, such as motor vehicles or synthetic rubber, but that each new model of each commodity, even such as new models of locomotives, railway cars, ships, etc., is tagged with new "unchangeable 1926–27 prices" of the described type and in the described way.[59] Negligible changes in design—frequently made on purpose—suffice for assigning a new and much higher "unchangeable 1926–27 price."

Since the planning of industrial output was in "unchangeable 1926–27 prices," it became ever more advantageous for individual factories, concerns, and commissariats (now ministries) to have a big fraction of their output valued as new output. By overfulfilling the goals in highly valued goods, goals actually missed could be proclaimed as gloriously fulfilled or overfulfilled.[60] The tendency to have a large part of the output assigned the status of new goods by making unnecessary changes must have become increasingly irresistible. Thus the number was always increasing of commodities included among those not produced in 1926–27, and for which new prices more or less close to current prices were established. Indeed, in certain branches of industry, no models which had been produced in 1926–27 may have been left, say, by 1940. Joffe's statement cited on page 112 may be rather obscure, but its sense is that in 1948 the "unchangeable 1926–27 prices" of

[58] Abram Bergson, *et al.*, turned to the analysis of postwar developments in "Postwar Economic Reconstruction and Development in the U.S.S.R.," *Annals of the American Academy of Political and Social Science*, May 1949, CCLXIII, 58. There he arrived at the conclusion that after three years, that is, by the end of 1948, the wartime decline in national product "has been largely made good." The Soviet claim, however, was that in 1948, i.e., approximately in the middle of that year, national income exceeded the prewar level by 14 percent (see tabulation below, p. 114). Actually national income was still below prewar in 1948. But even Bergson's somewhat more favorable appraisal implies that the upward bias of the "unchangeable 1926–27 prices" continued to operate strongly after the war. Bergson certainly would not now cling to the idea that "the official figures may be used to measure roughly the *changes* in production in . . . 1940–50" (see above, p. 111).

[59] Jasny, "Intricacies of Russian National-Income Indexes," p. 305.

[60] See, for example, Joffe, *op. cit.*, p. 92.

all or most machines did not differ much from the current prices.[61] To make subsequent analysis understandable, the official estimates of industrial production and national income[62] (Soviet concept) in "unchangeable 1926–27 prices" together with the writer's recalculations, may be properly repeated here from his previous study (in billion rubles):

Year	Industrial output		National income	
	Official	Writer	Official	Writer
1928	21.8	21.8	25.0	25.0
1932	43.5	36.0	.....	....
1937	95.5	62.5	96.3	53.2
1940	137.5[a]	72.0	125.5[b]	....
1940[c]	.....	76.3	.....	64.0
1943	121.0	45.8	.....	....
1945	127.0	53.4	.....	....
1946	105.5	51.8	.....	....
1947	126.7	59.7	.....	....
1948	163.0	70.4	143.0	60.0
1949	195.0	81.2	174.1	....
1950	239.5	....	200	....

Data from Jasny, *The Soviet Economy during the Plan Era*, p. 22.
[a] Assumed to pertain to pre-1939 territory; postwar revision, 138.5 billion.
[b] Assumed to pertain to pre-1939 territory; postwar revision, 128.0 billion.
[c] Data from here on pertain to all new territory.

The 1st and 2d Plan Periods.—The rate of inflation of the "unchangeable 1926–27 prices" was much greater in the 2d than in the 1st Plan Period. But contrary to the inflation ratio established for both Plan Periods together, which is based on rather thorough analysis, partly unpublished, the apportioning of this inflation ratio between the 1st and the 2d Plans was effected rather arbitrarily. The actual trend might have been: no bias in the first year (1928–29);[63] some bias in 1920–30;[64] strong bias in the last two

[61] See also Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 375.

[62] Actually, net national product.

[63] This is indicated by a comparison of the decline shown by the indexes of current prices for the output of the industry controlled by the VSNKh from 1926–27 to 1928–29 (*Monthly Statistical Bulletin*, Moscow, August 1929, pp. 20–21) with the difference in value of the same output in 1928–29 and 1926–27 prices (*ibid.*, August-September 1930, pp 108–11). The data are as follows (in percent):

Industry	Price indexes, decline	Value of output less in 1928–29 than 1926–27 prices
Total industry	4.2	4.8
Group A (heavy industry)	4.8	5.1
Group B (consumers' goods)	3.6	4.6

The differences between the changes in the values of output and in price indexes are too small to be significant.

[64] The output of the large-scale industry increased from 1928–29 to 1929–30 by 22.9

and one-third years of the 1st Plan Period; and probably about as strong a bias during the 2d Plan Period. To refute Bergson's statement quoted on page 111, it suffices to draw attention to the fantastic alleged increase in industrial output from 66.9 billion rubles in 1935 to 85.0 billion rubles in 1936. This jump was reflected in a corresponding increase in national income from 66.5 billion rubles to 86.0 billion, an increase which seemed unacceptable even to Baykov[65] and Studenski,[66] who reproduced all other official estimates of national income without reservations.

The 3d Plan Period.—A careful observer should not have failed to notice the great intensification of the upward bias after the start of armament production on a large scale in the late 'thirties. Output in "unchangeable 1926–27 prices" continued to increase at an almost unabated rate, while the rate of increase in output in physical terms slackened greatly. The only possible explanation was the very high "unchangeable 1926–27 prices" on armaments, the share of which in total industrial output was rapidly expanding in those years. Data of the 1941 Plan remove all doubts on this point. The output of the four commissariats grouped together as defense industries was as follows in billion rubles at "unchangeable 1926–27 prices":

1938	11.6
1939 (goal)	16.9
1941 (goal)	31.9

Data for 1938 and 1939 from the leader "For a Bolshevist Fulfillment of the 1940 Plan," *Planned Economy*, 1940, No. 1, pp. 9–10. The figure for 1941 is from *1941 Plan, Supplement*, p. 9.

The total industrial output in 1941 was expected to exceed the 1938 level by 46 billion rubles, and close to half of the whole increase was to consist of munitions. The greatly overpriced machinery output (including the output of the Commissariat of Electric Stations) was scheduled to expand from 14.4 billion rubles in 1938 to 22.4 billion rubles in 1941, or by 55 percent.

percent in prices of September 1930, but by 26.2 percent in 1926–27 prices (*Monthly Statistical Bulletin*, Aug.–Sept. 1930, pp. 108–11). While part of the difference may have had other causes, the upward bias of "1926–27 prices" seems to have been in evidence.

[65] Alexander Baykov, *The Development of the Soviet Economic System. An Essay on the Experience of Planning in the U.S.S.R.* (Cambridge, 1946), p. 400.

[66] Paul Studenski, "Methods of Estimating National Income in Soviet Russia," in National Bureau of Economic Research, *Studies in Income and Wealth* (New York, 1946), VIII, 198.

The increase in the output of munitions and machinery was to make up about two-thirds of the total expansion in those years. This obviously left little room for increases in the other industries, the "unchangeable 1926–27 prices" of which had much smaller inflation ratios than those of the two principal groups. The important textile industry, for example, was scheduled to be larger by only 18 percent, and the food industry by 26 percent.

The strong shift of output from goods moderately overpriced (in "unchangeable 1926–27 prices") to goods greatly overpriced would alone have boosted considerably the average level of those prices for the whole industry. But since this factor merely came on top of the uninterrupted rise in the level of the "unchangeable 1926–27 prices" caused by continual introduction of new goods or new models of old goods, the result was a considerable intensification of the bias of those prices in the peaceful part of the 3d Plan Period.

War.—The official claim is that, in spite of great and officially acknowledged disorganization, industrial production in the territory not invaded by the Germans (from which the industrial heart of the USSR, the Donetz Basin, was missing), was only 12.6 percent smaller in 1943 than the production of the prewar territory in 1940.[67] Such a slight decline could not have occurred except by way of a further great increase in the *share* of the overpriced munitions in total industrial output and by adding new overpriced goods.

The share of machinery and other metal processing in the total industrial output rose from 36 percent in 1940 to 57 percent in 1942.[68] Practically all this machinery and processed metal was, of course, armaments. It is furthermore clear from Voznesenskii's and Turetskii's evidence that the bulk of the armament output consisted of newly introduced types (with particularly high "unchangeable 1926–27 prices" tagged on them).

The share of the light and food industries, only moderately overpriced in "unchangeable 1926–27 prices," in total industrial output declined from 34 percent in 1940 to 20 percent in 1942.[69] The replacement of these and other only moderately overpriced goods by the highly overpriced munitions, indeed, primarily by

[67] Implied in Voznesenskii, *War Economy of the USSR during the Patriotic War*, pp. 48–49. [68] *Ibid.*, p. 80. [69] *Idem.*

those most overpriced, must obviously have greatly boosted the value of industrial output in "unchangeable 1926–27 prices." Even Turetskii had to recognize this and he did so with relatively great frankness. His relevant comments are as follows:

> A rough computation shows that on the average 20–25 percent more expenses are implied per ruble at unchangeable [1926–27] prices in the industrial output in its composition of prewar years than in that of war years (1943 and 1944). Frequently the gross production in terms of unchangeable prices characterizes incorrectly the dynamics of the volume of output, if a correcting coefficient is not applied, which eliminates the effect of changes in composition of the output.[70]

Analysis of the meager evidence on industrial output during the war, in conjunction with the important data on freight transportation, leads here to the presumption that the 1943 industrial output, relative to that of 1940, was overvalued to the enormous extent of 66.7 percent (see tabulation on p. 114).

The year 1946.—The great overvaluation of military goods in terms of "unchangeable 1926–27 prices" made the indexes of industrial production in terms of those prices behave in a peculiar way also in 1946, when the output of such goods was drastically curtailed. Although the output of civilian industrial goods is supposed to have increased from 1945 to 1946 by 20 percent according to the Central Statistical Office, total industrial output in "unchangeable 1926–27 prices" allegedly declined from 127 billion to about 105 billion rubles.[71] Turetskii helps to explain this strange phenomenon by suggesting—to eliminate the bias—an elevation of the 1946 figure by 10.3 percent, or a corresponding cut of the 1945 figure.[72] This writer assigns to the cut in the output of military goods an even greater depressing effect on the total value of industrial production in "unchangeable 1926–27 prices," and therefore assumes for 1946 almost no decline in the *value of total industrial production* in his computation in real 1926–27 prices (see tabulation on p. 114).

The period 1947–49.—Contrary to the development in prewar years, the period 1946–49 was one of rapid expansion of output of all goods, whether greatly overvalued, moderately over-

[70] Turetskii, *Intra-Industrial Accumulations in the USSR*, pp. 375–76. While the output in the statement is in "unchangeable 1926–27 prices," the costs Turetskii spoke of were costs in current rubles, like those shown in Appendix Table III.

[71] Implied in official data.

[72] Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 377. The reasoning is the same as was given for the excessive war output in "unchangeable 1926–27 prices."

valued, or not overvalued in terms of "unchangeable 1926–27 prices." Entirely new goods with new "unchangeable 1926–27 prices" tagged on them probably played a relatively small role. If it were not for the fact that so far as such goods were introduced, their biasing effect must have been very strong (their prices were certainly very high),[73] the bias of the "unchangeable 1926–27 prices" would have become quite small for a time. Since the percentage increases in total output were large anyway, the Soviets could have looked with equanimity at the reduced effectiveness of the "unchangeable 1926–27 prices" as a means of bolstering industrial output.

The reduced effectiveness of the "unchangeable 1926–27 prices" as a factor exaggerating industrial output for 1946–49 should not be taken to indicate that those prices have by some miracle become a less objectionable basis for an index. On the contrary, the use of such prices was falling into definite disrepute even in the USSR. One final example seems pertinent. Under the auspices of the Gosplan, a strictly technical book was published on setting up a technical and financial plan for an industrial enterprise.[74] The author seeks to illustrate his presentation with an example for an enterprise. In this example the gross output is 2,400,000 rubles at "*unchangeable 1926–27 prices*," and the marketable output (i.e., gross output plus difference in unfinished production between two consecutive years) is only 1,625,000 rubles at *current prices*, while the production costs of that output are 1,210,000 rubles, also in current prices.[75] The production costs even of producers' goods (relatively inexpensive goods) were, in 1948, at least five times as high as in 1926–27.[76] Hence Kontorovich regarded as normal "unchangeable 1926–27 prices" which were possibly 10-fold the real 1926–27 prices.

In apparently the only other item for which Kontorovich gave the unchangeable and current prices simultaneously, namely for unfinished production,[77] the difference in production costs of unfinished production in two consecutive production periods is appraised at 80,000 rubles at current prices and at 208,000 rubles at "unchangeable 1926–27 prices." Thus the cost of production was assumed by him to have been in this case about 2.5 times

[73] See the examples quoted below.

[74] V. Kontorovich, *Techpromfinplan [Technical Industrial Financial Plan] of an Industrial Establishment* (Moscow, 1948). [75] *Ibid.*, p. 73.

[76] This is indicated by the 1949 price revisions. [77] Kontorovich, *op. cit.*, p. 30.

higher at "unchangeable 1926–27 prices" than at current prices. With the current prices perhaps three times higher than the real 1926–27 prices, the "unchangeable 1926–27 prices" appear to have been set seven to eight times as high. Those, to repeat, are examples in a strictly technical publication designed to help in drawing up plans. The author probably used the price relationships common when he wrote, and he certainly would not have dared to exaggerate the "unchangeable 1926–27 prices."

Biases recapitulated.—The biases implied in the official estimates of industrial output in "unchangeable 1926–27 prices" in the various periods here analyzed appear as follows:

Period	Increase (+) or decrease (−) in percent		Bias in percent, upward (+) or downward (−)
	Official	This writer	
1928–37	+338	+174	+ 94
1937–40	+ 45	+ 18	+150
1940–43	− 13	− 40	+200
1940–45	− 9	− 30	+230
1945–46	− 17	− 3	−467
1946–49	+ 86	+ 57	+ 50

On the basis of the same data, with the real 1926–27 prices taken as 100, the "unchangeable 1926–27 prices" weighted by total industrial production appear to have been as follows:

Year	Percentage
1928	100
1932	121
1937	153
1940	180
1940[a]	178
1943	259
1945	233
1946	199
1947	208
1948	226
1949	235

[a] Territory adjusted to include all prewar and postwar acquisitions.

Addition in proofs.—On the basis of the addition in proofs in *The Soviet Economy during the Plan Era*, p. 15, the writer's estimates of the 1943 and 1945 industrial output must be considered as likely to be overestimates. The comparability of the estimates for, say, 1948 and 1949 with those of 1940 and preceding years is not affected by this afterthought.

CHAPTER VI

USE OF PRICES

HISTORICAL BACKGROUND

It has been mentioned that during all the Plan era and until recently the "unchangeable 1926–27 prices" were used in the USSR for the indexes of industrial production, agricultural production, labor productivity, and national income, and that it is not at all improbable that they are still so used. The 1932 prices, 1933 prices, 1933 Plan prices, and some others were used as "unchangeable" for certain other items. Such important items as construction, proceeds and costs of transportation, trade turnover, wages, production costs, and the budget were and are expressed in current prices or the so-called prices of respective years.

The use of 1926–27 prices in indexes was not always restricted to the four enumerated items. Before and at the inauguration of the 1st Plan, all relevant data were presented both in current and in prewar (mostly 1913) or 1926–27 prices. The 1st Plan,[1] for example, gave the following items both in 1926–27 and in current prices: basic funds (fixed capital in gainful enterprises and other uses), capital investments, national income, industrial output, total and marketable agricultural output, and construction. Wages were stated in current rubles, but, significantly, they were lower in current than in 1926–27 prices.[2] The summary volume of the Plan also gave the planned per capita income of the urban and rural population in terms of real income, i.e., with consideration of the expected *decline* in living costs.[3] This was equivalent to expressing the planned income of wage earners in terms of living costs. In addition to the budget, only the planned return from transportation and the trade turnover were stated solely in current prices.[4] But even those items could easily be recalucu-

[1] USSR Gosplan, *Five-Year Plan of National-Economic Construction* [1st Plan] (3d ed., Moscow, 1930), I, 129–35.

[2] *Ibid.*, Vol. II, Part 2, pp. 208–09.

[3] *Ibid.*, I, 137.

[4] See *ibid.*, I, 134–35 for the budget; Vol. II, Part 2, pp. 156–57 for trade turnover.

lated to 1926–27 prices, because the price indexes were given right there, in the principal table;[5] moreover, their recalculation to those prices would have raised rather than lowered the items involved. Planning was fully based on 1926–27 prices at that time.

This laudable practice could not, however, be maintained for any length of time. Actual developments during the 1st Plan Period had little in common with the goals of the Plan. To reckon money wages as real wages with the help of cost-of-living indexes would have shown that real wages, which were expected to rise rapidly (by 70.5 percent in the five years of the 1st Plan Period),[6] actually declined strongly; and the exposure of such an immense failure could not be suffered in a country where commonly only improvements are permitted to be exhibited. The same was true of the retail turnover. The rapidly rising figures for that turnover in current prices could, as with nominal money wages, be cited endlessly as proof of improvement in consumption levels.[7] Adjusted for price change, however, the retail turnover would at first have shown an absolute decline, and the later small increase would fall far short of offseting the rise in demand caused by the rapid growth of the urban population and by the effect of other factors which have nothing to do with improvement in consumption levels. Retail turnover figures in constant prices disappeared from statistics and planning along with similar data for wages and, for that matter, with all price statistics and specifically with price indexes. Publication of price indexes was discontinued early in 1930, and of real wages and retail turnover in constant values at about the same time. The first statistical yearbook published after 1928, that of 1932,[8] does not contain either prices or any data on wages and retail turnover in constant values.

The use of the 1926–27 prices as the basis of indexes and planning ceased also with reference to capital investments and construction, although in terms of such prices these items would have made a good showing. To make the figures on national income conform to those on capital investments and construction expressed in current prices, a shift to these prices was made in the

[5] *Ibid.*, I, 135.
[6] *Ibid.*, I, 137.
[7] See Stalin, *Problems of Leninism*, pp. 387, 391, 586, and all other Soviet potentates.
[8] *National Economy USSR: Statistical Handbook, 1932.*

computation of distribution of national income by use—two items, or one, in such compositions being new investment (see p. 139).

The reason for suppressing the data on investment and construction in 1926–27 prices may have been their very large size in relation to the total national income. Even in current prices, capital investments plus "reserves" (actually, addition to the variable capital) turned out to have been 26.9 percent of total national income in 1932.[9] With the construction costs and the prices of machinery very high in 1926–27 prices, the share of investment in national income would have been much larger if investment had been computed in 1926–27 prices.

The policy with reference to investment was apparently the reverse of the policy concerning industrial production. (The attempt to explain every Soviet action as fully reasonable from their point of view frequently puts the analyst in a hole.) The Soviets were very proud both of their huge new factories and of the large output of these factories. They used the 1926–27 prices, which soon became "unchangeable 1926–27 prices," to exaggerate the output, but hesitated to disclose the huge amount of sacrifice for the population involved in investment needed to construct those factories.

The price base for estimating the basic funds in constant values was likewise shifted from 1926–27 to other years. The investigator must be grateful to the Soviet government for this shift, if only because it permits a computation of the rate of inflation for construction costs including equipment (see *Soviet Prices of Producers' Goods*, chapter i). The use of 1926–27 prices in planning was soon practically limited to industrial output, indeed solely to that of the large-scale industry, and to the productivity of labor in industry. This use persisted—in the face of great difficulties—until 1940; it was finally abandoned only after January 1, 1949.

The announced shift from "unchangeable 1926–27 prices" to current prices in planning industrial production and labor productivity since January 1, 1949 may possibly be interpreted as implying the complete end of "unchangeable prices," but one cannot be quite certain of this. Index figures for industrial output and national income, with 1940 equaling 100, were officially

[9] USSR Gosplan, *The Second Five-Year Plan for the Development of the National Economy of the USSR (1933–37)* [2d Plan] (Moscow, 1934), I, 427.

and repeatedly stated in 1949 and 1950. While the method of computing the indexes was not specified, the data smack of that old reliable, the "unchangeable 1926–27 prices." For example, the report of the Central Statistical Office on the fulfillment of the 1949 Plan said:

> The Five-Year Plan envisaged that the volume of output of the whole industry of the USSR in 1950 must exceed the output of the prewar year 1940 by 48 percent [definitely "unchangeable 1926–27 prices"]. In the 4th quarter of 1949 the monthly average gross output of the industry exceeded the 1940 level by 53 percent [may still be "unchangeable 1926–27 prices"].[10]

And also:

> National income of the USSR, in comparable prices, increased in 1949 as compared to 1948 by 17 percent and was 36 percent larger than in the prewar year 1940.[11]

It is not at all impossible that these comparable prices again are none other than "unchangeable 1926–27 prices." In any case the indexes expressed in those comparable prices obviously link miraculously well to the old ones in "unchangeable 1926–27 prices."

The writer is reasonably certain that no announcement was made, in any publication normally consulted, of a new method for computing indexes of industrial production and national income. Such a change, if it could be disclosed, would certainly be mentioned in articles specifically on national income.[12] The reason to doubt that a change was made is that difficulty would be met in preserving the biasing feature of the "unchangeable 1926–27 prices" in the indexes, and the Soviets certainly would not part with this means of showing immense successes. However, some modification in the method of computing indexes, formerly manufactured in "unchangeable 1926–27 prices," may have occurred. The writer thus far has found no clue as to how they fixed it all up, if they did.

10 Moscow papers for Jan. 18, 1950. 11 *Ibid.*

12 Ya. Kronrod, "National Income of the USSR," *Bolshevik* (a Party journal), 1950, No. 8, pp. 57–58; A. Duginov, "Growth of National Income," *Izvestiya*, Jan. 28, 1950; or N. Maslova, "Uninterrupted Rise of Well-being of the People—A Law of Socialism," *Pravda*, Feb. 12, 1950. These articles are clearly reactions to the anouncement of the Central Statistical Office cited above—a few selected from an almost endless number.

The only justification for the belief that the use of "unchangeable 1926–27 prices" in indexes was discontinued is a vague statement by D. V. Savinskii (*Course of Industrial Statistics*, p. 88). Harry Schwartz (*Russia's Soviet Economy*, p. 124) correctly points out that Savinskii did not give a "clue to the base year that will be chosen for the new index, nor when the new measure of industrial output is scheduled to be introduced."

PHANTOM PRICES IN AGRICULTURAL STATISTICS

The reasons are not clear why the Soviets have clung to the use of "unchangeable 1926–27 prices" with reference to agricultural output. The prices helped little to show "successes" in this field. Overstatement of agricultural output occurred in other ways, such as by inclusion of unharvested portions of crops in the value of output, etc.[13] The 1926–27 prices were possibly retained in these computations in order not to undermine the national-income indexes in such prices even more than they were already undermined.

So far as planning is concerned, prices as such were never important in the case of agriculture, for the nature of the produce permitted planning in physical terms. Even before 1949, when the use of the "unchangeable 1926–27 prices" in indexes may have been abolished entirely, all agencies lower in the scale than the Central Office of National-Economic Accounting, or its successor, did not employ the 1926–27 prices at all in dealing with agriculture. Conversion to these prices of the data in physical terms or in current prices occurred exclusively at this high level.[14] It was no surprise to the present writer not to find the usual single figure on agricultural output in "unchangeable 1926–27 prices" in the *1941 Plan, Supplement*, since that publication was labeled as "not for circulation." There was no room for such a figure in a document which meant business. For that matter, it also did not state the national income in those or any other prices.

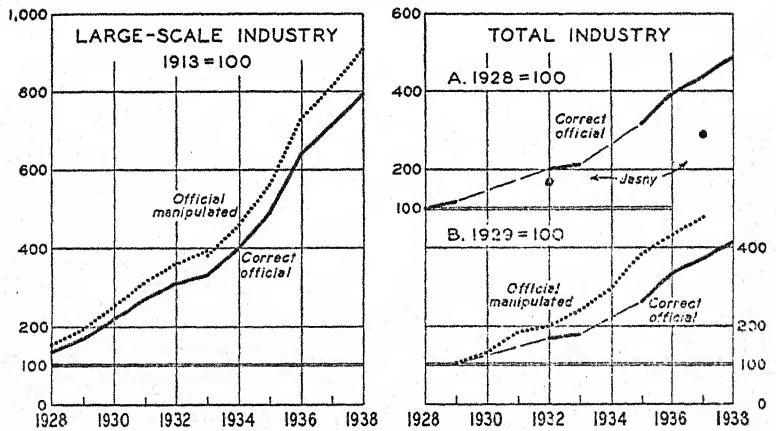
PHANTOM PRICES IN INDUSTRIAL-OUTPUT SERIES

The reasons for retaining the 1926–27 prices in the three indexes other than that of agricultural output, and specificially in the index of industrial output, are obvious. Even the real 1926–27 prices would have presented the industrial expansion in an unjustifiably favorable light,[15] and the "unchangeable 1926–27 prices" actually used raise the extent of this expansion to fantastic levels. The fact is that, with reference to the indexes of industrial output and possibly those of labor productivity, the Soviets were not satisfied with the greatly exaggerated increases

[13] For details see Jasny, *The Socialized Agriculture of the USSR*, pp. 668–74.
[14] *Dictionary-Handbook on Social-Economic Statistics*, 2d ed., pp. 79–80 and 229.
[15] See above, p. 5 and others.

implied in data in "unchangeable 1926–27 prices." Further substantial boosts of the indexes were attained by sheer manipulation. With the customary lack of consistency the values of industrial production used in computing the national income remained, however, untouched. Thus Appendix Table IV gives: (1) the values of industrial production as used in estimating national income, and the indexes based on them, designated "correct official," and (2) the same values and indexes but additionally manipulated and so designated. Chart 3 shows the indexes alone. Data for both total and large-scale industry are given. In addition Gerschenkron's indexes in "unchangeable 1926–27 prices" and the writer's in real 1926–27 prices (both for total industrial production) are shown, the former in the table only.

CHART 3.—USSR: INDEXES OF INDUSTRIAL PRODUCTION, 1928–38*



* Data in Appendix Table IV.

The additional manipulation of the indexes for *total industrial production* was attained by the simple device of excluding the output of private small-scale industry, which was rapidly disappearing in those years.[16] In this simple way the 1929 output, on which the index was based, was reduced from 25.7 billion rubles to 22.3 billion, and the index for 1938, for example, was boosted from 413 to 477.4.[17]

16 There was very little large-scale private industry in the years involved.

17 USSR Gosplan, Central Office of National-Economic Accounting, *Socialist Construction USSR, 1933–38* (Moscow, 1938), p. 32. The low Soviet evaluation of the ability of non-Soviet scholars to see a fake is apparent from the fact that two pages later (p. 34) the same source gave the industrial output of 1929 at 25.7 billion rubles—the figure used in the text for computing the indexes not additionally manipulated (see Appendix Table IV, and Chart 3, above).

Similarly, in computing the indexes of large-scale industrial production based on 1913, the 1913 output was substantially understated. This is apparent from the following comparison (in billion rubles) of the data for large-scale industry excluding forestry and fishing in the *1st Plan*, a reliable source, and in the 1934 statistical yearbook, a not-so-reliable source:

Year	*1st Plan*[a] (Pre–World War I prices)	*Socialist Construction USSR, 1934*[b] (1926–27 prices)
1913	6.391	10.25
1927–28	8.143	
1928	8.526[c]	15.82
Increase in 1913–28 (percent)	33.4	54.3

[a] Vol. I, p. 15.

[b] Page 25. These figures are found also in subsequent editions of the yearbook.

[c] The 1927–28 figure given in the source was adjusted upward on the basis of the distribution of industrial production by quarter years in 1927 and 1928. See *Control Figures of the National Economy USSR for 1929–30*, p. 39.

By this enchanting device the index of large-scale industrial production (1913 = 100) for 1938, for example, was boosted to 908.8 percent;[18] without the additional manipulation, it would have been 793.3.

The additional manipulations of both indexes — total and large-scale industrial production—not only exaggerated the rising trend of each but also imparted to them further distortions and discrepancies. The output of small-scale industry, for example, more than doubled from 1929 to 1931 on the basis of the figures underlying the indexes, although actually it probably declined moderately and in any case did not increase. The rise in the output of total industry in those years appears much greater, relatively, than the rise of large-scale industry, although the reverse was true.

It is obvious that any analysis of the official estimates of industrial production in "unchangeable 1926–27 prices" must start not from the additionally manipulated values or indexes but from the values used by the Soviets themselves in computing national income and here designated "correct official." Even these

[18] The overmanipulated indexes for 1921–33 are in *Socialist Construction USSR, 1934*, p. 11. The indexes for 1933–38 are, among other sources, in Stalin, *op. cit.*, p. 577.

values and indexes are exaggerated more than enough by non-Soviet standards.

The League of Nations is to be congratulated for avoiding the pitfalls of these ruses; its indexes of total industrial output (1929 = 100)[19] are those marked "correct official" in Chart 3. Gerschenkron's hastily compiled indexes of Soviet industrial production would not need mentioning if they were not rather widely used.[20] He used 18 billion rubles rather than 21.8 billion rubles as the value of the total industrial output in 1928.[21] It was rather unfortunate that the error involved the very year which serves as the base for appraisal of the results of the whole Plan era. With 1928 as 100, the index figure for the 1938 total industrial output, for example, was boosted more than 100 points. Gerschenkron's indexes for the total industrial output, with 1913 as 100, also are higher than the correct official ones, and for large-scale industry he reproduced the overmanipulated official indexes manufactured in the 'thirties (see Appendix Table IV). The wrong starting points weaken his useful remarks on the overestimation of the official figures. Any discounts for this overestimation have obviously to be made from the correct official estimates rather than from those deliberately overmanipulated or erroneously set too high. Harris follows in Gerschenkron's track in that he discusses the need of discounts from indexes too high even for official.[22]

The Soviets do not hesitate to use series expressed in rapidly rising prices as if they were in constant prices, but they know full well that such series can never command the respect and authority of series in constant prices. With their industrial output series in "unchangeable 1926–27 prices" being reproduced all over the world without qualifications, or with only moderately modifying

19 League of Nations, *Statistical Year-book, 1940/41* (Geneva, 1941), p. 160.

20 S. E. Harris, for example, used them as the basis of his rather enthusiastic appraisal of Soviet planning in his *Economic Planning* (New York, 1949), pp. 49–51.

21 Gerschenkron, "The Soviet Indices of Industrial Production," p. 218, and "The Rate of Industrial Growth in Russia since 1885," p. 161. Gerschenkron gave *Socialist Construction USSR, 1934* (p. 36) as the source for 18 billion rubles for the total industrial output in 1928. Page 36 is an obvious misprint. The figure of 18 billion rubles can be found on page 24 of this publication. But there it is qualified by a note stating that private small-scale industry had been excluded. Gerschenkron used it as representing *total* industrial output. The difference was equivalent to 3.8 billion rubles, or in any case 3.4 billion rubles if the figure of 21.4 billion rubles is used for the total 1928 industrial output as given by Voznesenskii (*War Economy of the USSR during the Patriotic War*, p. 12) rather than I. Krasnolobov's more reliable figure of 21.8 billion rubles ("Factors of Growth of National Income in a Socialist Society," *Problems of Economics*, 1940, No. 9, p. 62).

22 Harris, *loc. cit.*

qualifications,[23] they stuck to these in spite of the great inconveniences inherent in them for the work of planning. They are possibly still adhering to them for the purpose of indexes, while having discarded them for any other use.

LABOR PRODUCTIVITY

Just as industrial output computed at bias-imparting "unchangeable 1926–27 prices" makes a magnificent showing, so also does productivity of labor, which is officially computed from it by the simple device of dividing output in money terms by the number of workers. The official claims are that labor productivity in industry increased 109.9 percent from 1929 to 1937.[24] From 1926 to 1929 it is supposed to have risen by more than 40 percent,[25] so that the total calculated advance from 1926 through 1937 must have been almost 200 percent. For the three years from 1937 to 1940 a further rise in labor productivity of 32 percent is claimed. In 1928–40 the rise is supposed to have been more than 3.5-fold.[26] Yearly increases of 13–15 percent are supposed to have occurred in postwar years.[27] The true rise in labor productivity during the Plan era was of course far smaller, and would have appeared so had not the "unchangeable 1926–27 prices" been used in the calculation.

It was shown elsewhere that the data on labor productivity, computed by way of output in "unchangeable 1926–27 prices," reflect clearly not only the upward trend of these prices, but also greatly differing degrees of exaggeration in individual industries. The data on labor productivity in individual industries can indeed be used as indications of the rates of exaggeration in the output of specific industries or of specific products in terms of "unchangeable 1926–27 prices." This approach to solving the riddle of "unchangeable 1926–27 prices" proved useful in the early stages of the writer's work on this subject.[28] Analysis of the pertinent data for motor vehicles for years when such data were still

23 See above, p. 95.

24 *3d Plan*, p. 105.

25 Turetskii, *Intra-Industrial Accumulations in the USSR*, p. 30.

26 *Idem.*

27 See the yearly reports of the Central Statistical Office, and, for example, A. Duginov, "New Successes of the Socialist Economy," *Izvestiya*, July 28, 1950.

28 Jasny, "Intricacies of Russian National-Income Indexes," *Journal of Political Economy*, August 1947, LV, 311.

released continue to command interest. Unfortunately the year 1934 seems to be the last for which such data are available, even for motor vehicles. In the tabulation below, the outputs per worker and per year in the tractor and "automobile" industries[29] in 1934 are compared with the outputs in otherwise similar industries, namely those producing farm machinery other than tractors, and railway locomotives and cars—all data in rubles in terms of "unchangeable 1926–27 prices":

Tractors	15,981
"Automobiles"	20,876
Other farm machinery	6,625
Railway locomotives and cars	7,636

Data from USSR Gosplan, Central Office of National-Economic Accounting, *Socialist Construction USSR, 1936* (Moscow, 1936), pp. 9–10.

The relatively very large output per worker in the tractor and "automobile" industries must obviously have been the outcome of great overvaluation of the output computed, as we know, in "unchangeable 1926–27 prices." Moreover, there is little doubt that the value of output even of farm machinery and of railway locomotives and cars was boosted by the introduction of new models (in the case of farm machinery, of all kinds of tractor-drawn implements), priced at or near the cost in the year of introduction.[30]

PHANTOM PRICES IN PLANNING INDUSTRIAL OUTPUT AND LABOR PRODUCTIVITY

As was stated above, it was long the practice to plan the output of large-scale industry, aside from forestry products, first in 1926–27 prices and later in "unchangeable 1926–27 prices." The output of forestry products and of small-scale industry was planned in 1932 prices, and only the totals were converted to

29 "Automobiles" in Soviet terminology include both passenger cars and trucks.

30 Baykov, in support of his acceptance of the official indexes of industrial production in "unchangeable 1926–27 prices," assigns much importance to the output of industries which did not exist in 1913 or were only in embryonic form then. First in his list are 211,000 "automobiles" and 32,200 tractors (1938 output). See *Bulletin of Soviet Economic Development*, May 1949, I, 8. Baykov's argument would have fallen if he had computed the value of the enumerated machines. The roughly 300,000 cars, trucks, and tractors (the latter reduced to units of 15 drawbar horsepower) produced in 1938 had a value at wholesale of, say, 240 million dollars. The fair equivalent of this in 1926–27 prices would have been 1 billion rubles, and thus is less than 1 percent of the total value of the 1938 industrial output at "unchangeable 1926-27 prices."

"unchangeable 1926–27 prices" in the Central Statistical Office, in order to obtain the total industrial output in those prices.[31]

It is obvious that planning and operating the national economy were greatly handicapped by the use of the rapidly rising current prices for the budget, construction, wages, and trade turnover, while the bias-imparting "unchangeable 1926–27 prices" were used for industrial output and labor productivity in industry. Pollyak wrote in the Gosplan journal in 1940:

> How could the wage fund, computed with consideration of the increase in labor productivity, computed in unchangeable 1926–27 prices, be tied in with the item "wages" in the computation of the production costs if the total value of the output was not available [in current prices]?[32]

By 1940, the situation had become intolerable. Yet the authorities could not make up their minds to discontinue the use of the "unchangeable 1926–27 prices" in planning and by this action to undermine their role as an excellent means of propaganda. An artificial distinction was therefore introduced between industrial output as such and marketable output. The difference between the two is merely that marketable output represents the total output plus or minus the difference in unfinished production at the beginning and the end of the year or other period. Many industries obviously have no unfinished production to speak of. Marketable industrial output in *current prices* after 1940 was to be largely substituted for industrial output in "unchangeable 1926–27 prices" in planning.[33]

Planning of labor productivity, however, continued in "unchangeable 1926–27 prices" after 1940.[34] But the inadequacy of this procedure was well realized, and substitutes such as indexes in physical terms,[35] indexes based on labor time, and others, were widely resorted to.[36] It is quite possible, however, that both the use of data in "unchangeable 1926–27 prices" and of the substitute indexes were window dressing. The *1941 Plan, Supplement*, intended for real use and not for propaganda, did not con-

31 *Dictionary-Handbook on Social-Economic Statistics*, 2d ed., p. 79.

32 G. Pollyak, "Balance of Incomes and Expenditures of Economic Organizations," *Planned Economy*, 1940, No. 7, p. 71.

33 Pollyak's article quoted above was published after this change had been decided; earlier publication probably would not have been permitted.

34 Savinskii, *Course of Industrial Statistics*, p. 203.

35 *Ibid.*, pp. 192–202.

36 *Ibid.*, pp. 209–12.

tain any data on labor productivity in terms of "unchangeable 1926–27 prices." What it did contain was the output per worker in terms of "otpusknye tseny," i.e., wholesale prices including the turnover taxes. The figures naturally varied fantastically, from 2,240 rubles per worker and year in forestry work and 5,511 rubles in the coal industry to 47,181 rubles in the petroleum industry and 61,000 rubles in procurements (classed as industry). Surprising as it may seem, even percentage increases from the preceding year were given,[37] apparently without stating whether or not these percentages were adjusted for the changes in prices.

By 1948, the use of "unchangeable 1926–27 prices" in calculating and planning output had become negligible. A study on the economy of a metallurgic factory, for example, in showing the method of calculating total output,[38] started with gross output and marketable output in "unchangeable prices," and marketable output in current prices as well. Then itemized costs were given, but exclusively in current prices. The individual items were finally totaled up to give the value of gross production, and this was adjusted for changes in unfinished production to obtain the cost of the marketable output in current prices. The value of the output in "unchangeable prices" obviously played no role in actual planning of output. Productivity of labor seems to have been the only other item in which "unchangeable prices" were stated by the author (pp. 159 ff.), but there too their role was insignificant, and possibly even this was only for the benefit of the general public. In bookkeeping, the 1926–27 prices apparently had no place whatsoever at that time.[39] Yet this corpse continued to be a source of much abuse and misuse (see p. 130).

Beginning with January 1, 1949, the planning of gross production and labor productivity was to be in current rather than in "unchangeable 1926–27 prices."[40] As was indicated above (pp. 122–23), this may or may not put an end to the use of "unchangeable 1926–27 prices" in industrial and other indexes. But the complete elimination of "unchangeable 1926–27 prices" from the planning of industrial output and of labor productivity ob-

37 For forestry work and lumbering, for example, on p. 521 of *1941 Plan, Supplement.*

38 Y. G. Lyubovich, *Economy of a Machine Factory* (Moscow, 1948), especially p. 126.

39 See, for example, A. Sumtsov, *Course of Bookkeeping* (Moscow, 1948).

40 Vladimirov, "For Profitable Operation of Enterprises," *Questions of Economics,* 1948, No. 8, p. 32.

viously deprived those prices of the vestiges of practical use which they still had, and left them, if preserved, of use only as propaganda.[41]

NATIONAL-INCOME INDEXES

The concept of national income as it is used in the USSR corresponds to the net national product, or the national income at market price, of other countries with the difference that only output, transportation (including communications), and trade in material goods are included. Services, including passenger transportation and communications serving personal needs, are excluded. This is supposed to be according to Marx.[42]

In "unchangeable 1926–27 prices."—Since about 1931 the standard computations of Soviet national income have been in terms of "unchangeable 1926–27 prices"; contrary to the preceding practice, other prices have been used only rarely.

It is a great merit of Prokopovicz to have shown that in the official computations of national income in "unchangeable 1926–27 prices" only the contributions of industry, agriculture, and transportation were computed fully or roughly in those prices, and that this was not the case with the contributions of construction and trade.[43] The first edition of the official commentary on Soviet

[41] It seems incorrect for Kaser ("Soviet Planning and the Price Mechanism," p. 89) to call the change of the price basis in planning industrial output and labor productivity a fundamental reform. The action taken in 1948 was merely the last step in an evolution of long duration. It seems, moreover, to be a misunderstanding when Kaser (*op. cit.*, p. 90) says that the wholesale prices (otpusknye tseny), introduced on January 1, 1949, "will embody in detail not an actual structure of costs (as was the case before) but the planned structure for 1950." The prices effective January 1, 1949 replaced similar prices (not costs) in effect up to December 31, 1948. Contrary to Kaser's opinion, the raising of the prices of producers' goods, effective January 1, 1949, and the replacement of "unchangeable 1926–27 prices" by actual or current prices in planning industrial production and labor productivity in industry on the same date were two independent actions, which might as well have occurred on different dates. It was not specifically the current 1949 prices which acquired the function of being the basis for computing industrial output and labor productivity in industry, but any current prices.

With certain reservations one can agree with Kaser's conclusions (p. 91) that the Soviet government had "decided that while planning in terms of quantitative targets is essential, a functional use of the price mechanism is a necessary precondition to a sound and smoothly working economy." However, there had been much talk of this for a long time, but thus far the good intentions could not be realized. The measures taken in 1948–49 represent neither something new nor a definite turn.

[42] On the Soviet concept of national income, see the paper presented before the American Economic Association by Paul Studenski and Julius Wyler, "National Income Estimates of Soviet Russia—Their Distinguishing Characteristics and Problems," *American Economic Review*, May 1947, pp. 595–610.

[43] Prokopovicz, *Russlands Volkswirtschaft unter den Sowjets*, pp. 362–64. Prokopovicz used as the source for his statements on the contributions of transportation, construction, and trade to national income a book by Krasnolobov, published in 1940 and unfortunately in-

statistics, after having stated that the output of state industry is planned and accounted for in "unchangeable 1926–27 prices" and that the outputs of agriculture, the lumber industry, and industrial co-operatives are recalculated to those prices, added: "Other systems of unchangeable prices are used in other branches of the national economy (construction, trade)"; there is not a word on recalculation of these prices to those of 1926–27.[44] In the second edition of the same commentary, that sweeping statement was replaced by a more cautious one: "In capital construction the prices of 1945 are accepted as the unchangeable ones." Also, nothing is said about the use of any constant prices in trade statistics.[45]

In addition to the exaggerations of the gross value of agricultural products due to manipulating the output in physical terms (see above, p. 124), the contributions of agriculture to national income are exaggerated by failure to deduct all the costs involved.[46] In these ways, it became possible to reach in official statistics the obviously absurd result that, while gross agricultural output increased by 38.7 percent from 1927–28 to 1937, the contribution of agriculture to national income expanded by 67.4 percent.[47]

With reference to industry, the figures on gross value of output used in computing the contribution to national income are, of course, the greatly exaggerated figures in "unchangeable 1926–27 prices" discussed above (but *without* the additional manipulation found in the indexes of industrial production; see above, pp. 124–26). Like those of agriculture, the contributions of industry to national income are even more exaggerated than the gross values, because the biasing factor implied in those prices affects the prices of finished products more than it affects the costs of raw materials, so that the deductions for materials made in computing this contribution appear small relative to the gross values. Owing largely to this, in the span of only nine years from 1928 to 1937, the share of the cost of materials and depreciation in the total gross value

accessible to this writer. A copy was available in this country (Baran quotes it), but it disappeared.

44 USSR Gosplan, Central Office of National-Economic Accounting, *Dictionary-Handbook on Social-Economic Statistics* (Moscow, 1944), p. 54.

45 *Ibid.* (1948), pp. 79–80.

46 Jasny, *The Socialized Agriculture of the USSR*, p. 676

47 See the official data in *ibid.*, p. 775.

of industrial output declined from 60.1 percent to 46.7 percent[48] and was scheduled to become even less in 1942 by the 3d Plan. The contribution of industry to national income rose proportionately. In absolute figures the officially computed value of the industrial output increased from 21.8 billion rubles in 1928 to 95.5 billion in 1937, i.e., by 338 percent, but its contribution to national income grew in the same years from 8.7 to 50.9 billion rubles, i.e., by 485 percent.[49]

Krasnolobov and other analysts of the Soviet national income went out of their way (they had to do so) to try to point out the specific advantages of the socialized economy which led to the great improvement in the relation between net and gross industrial output, although they knew perfectly well that the principal factor causing it was the uneven rate of overestimation of the finished products and their raw materials in terms of "unchangeable 1926–27 prices." At the time when the writer lacked the illuminating data of the *1941 Plan, Supplement*, he used the rapidly rising share of the net industrial production in gross production as one of the proofs of the great overestimation of the finished products relative to their raw materials in terms of "unchangeable 1926–27 prices."[50]

As reported by Prokopovicz,[51] the contribution of transportation to national income is computed in the USSR by multiplying the transported freight in ton-kilometers by the contribution to national income of each ton-kilometer in 1926–27. This procedure should yield roughly correct results, at least for railways.[52] The official estimates are in any case accepted by the writer; they are indeed the only ones of this kind accepted in his estimates (see p. 136 and *The Soviet Economy during the Plan Era*, p. 34).

The estimates of the contributions of construction to national income in terms of *current* prices are simply transferred into the estimates of national income in terms of "unchangeable 1926–27 prices," according to Prokopovicz.[53] But the official figure of 12.5 billion rubles for the contribution of construction to national in-

48 Krasnolobov, "Factors of Growth of National Income in a Socialist Society," p. 62.

49 *Idem.*

50 Jasny, "Intricacies of Russian National-Income Indexes," pp. 309–11.

51 Prokopovicz, *op. cit.*, p. 363.

52 Studenski and Wyler (*op. cit.*, p. 603) believe that the method of computing the net value of transport gives a very much distorted view of the real growth of the net value of the services of this branch of production.

53 Prokopovicz, *op. cit.*, pp. 362–63.

come in 1937 in terms of "unchangeable 1926–27 prices" represents an increase of 634 percent since 1927–28, and this implies an even greater exaggeration than would be implied if the contribution of construction to national income in current prices were used.

The most extensively manipulated portion of Soviet national-income indexes pertains to the contribution of trade (including catering). This is supposed to be computed by applying the percentage contribution of trade to national income in 1926–27 to the retail turnover in current rubles in succeeding years with the turnover taxes deducted.[54] This procedure should leave fully preserved the effect of the large increase in the prices of consumer's goods, other than the increase caused by turnover taxes.

The value of the retail turnover (state, co-operative, and private trade in 1928; state and co-operative trade in 1937) increased from 13.5–15.8 to 125.9 billion rubles, i.e., about 8-fold, in 1928–37.[55] A rough computation of the retail prices in Moscow, weighted by the purchases of an average worker's family, indicates a similar increase in retail prices over the period.[56]

The increase in the value of the retail turnover in current prices without turnover taxes cannot be computed exactly, because the share of consumers' goods in the proceeds from the turnover tax is not known. If it is assumed that the state paid one-fifth of the total turnover tax, the value of the retail trade in current prices but with the turnover tax excluded rose 4.4-fold in 1928–37. The contribution of trade to national income increased 6.5-fold in those years, according to the official computation in "unchangeable 1926–27 prices." It suffices to put side by side the figures—roughly 16 billion rubles as the value of the 1937 retail turnover (including catering) in terms of 1928 prices (it would be about the same in terms of 1926–27 prices), and 11.8 billion rubles as the officially computed contribution of trade to national income computed in terms of "unchangeable 1926–27 prices"—to see the fantastic degree of manipulation.[57]

[54] *Ibid.*, p. 364. Readers should not forget that Prokopovicz' source was Krasnolobov, whose comments were as good as official.

[55] Jasny, *The Soviet Economy during the Plan Era*, p. 27. Sales in kolkhoz markets in 1937 were not considered, nor were sales by producers direct to consumers in the 1928 figure.

[56] See *ibid.*, table on p. 58 and Appendix Table III.

[57] For the conversion of retail turnover to real 1926–27 prices see Jasny, *The Soviet Economy during the Plan Era*, p. 28. The fact that the service rendered by the trade

Actually, the official figure of 11.8 billion rubles as the contribution of trade to national income in terms of "unchangeable 1926–27 prices" in 1937 seems to have been obtained in the simplest way imaginable. According to the detailed computations in Chernomordik's official study on national income,[58] the contribution of trade to national income amounted to 10.0 billion rubles at current prices in 1936. Retail turnover of the state and cooperatives in current prices increased exactly 18 percent from 1936 to 1937. Thus the contribution of trade to national income in "unchangeable 1926–27 prices" in 1937 was obtained by raising the 1936 contribution in *current prices* by the percentage increase in turnover in the same prices from 1936 to 1937. Contrary to official assertions, not only the effect of the monetary inflation but also the immense turnover taxes were not eliminated from the trade turnover in the computation of the contribution of trade to national income.

The results of all the manipulations are apparent from the comparison of the official computations of national income for 1937 with those of the writer, both in rubles and in percentages.

Sector	Billion rubles		Percentage distribution	
	Official "unchangeable 1926–27 prices"	Writer's real 1926–27 prices	Official "unchangeable 1926–27 prices"	Writer's real 1926–27 prices
Industry	50.9	26.9	52.9	50.6
Agriculture ...	14.9	10.3	15.5	19.4
Construction ..	12.5	5.8	13.0	10.9
Transportation.	5.2	5.2	5.4	9.8
Trade	11.8	4.0	12.3	7.5
Others	1.0	1.0	1.0	1.9
Total	96.3	53.2	100.0	100.0

Official data from Prokopovicz, *Russlands Volkswirtschaft unter den Sowjets*, p. 256; writer's estimates from *The Soviet Economy during the Plan Era*, p. 35.

Not only did all official estimates, except that for transportation, have to be cut more or less drastically, but the percentage distribution also changed substantially. The greatest gain in this was naturally made by transportation, whose contribution to na-

deteriorated considerably after 1928, and that therefore the application of the 1926–27 trade margin (in percentage terms) in later years was hardly justified, is a minor matter as compared with the disregard of the effect of inflation, and with simply straightforward manipulation.

58 Moskvin, "Trade," in *National Income of the USSR: Its Formation and Estimation*, p. 270.

tional income in rubles was taken over from the official estimate, while those of all other sectors were reduced. The share of agriculture also went up, the contribution of this sector showing the smallest amount of manipulation among those manipulated. The share of trade, on the other hand, fell considerably.

Krasnolobov's revealing evidence on the methods of computing national income was not reproduced in *Dictionary-Handbook of Social-Economic Statistics*. The information provided by this source consisted merely of a few confused statements. The first edition (pp. 40–43) did not state how the national income was computed. According to the second edition (p. 83), "National income is computed in current prices as well as in unchangeable (constant) prices (prices of one certain period, arbitrarily selected as the basis)." Since no computations in "unchangeable 1926–27 prices" were made for construction, trade, and transportation according to the same source, the statement of the *Dictionary* may be taken as an acknowledgment that in the computation of the national income in "unchangeable 1926–27 prices," only the contributions of the agricultural and industrial outputs were in these prices. (The contribution of transportation is computed with the use of the contribution per ton-kilometer in 1926–27.) One hardly needs the acknowledgment.

While the methods of computing national income are hushed up, it is clear from the *Dictionaries* that even the statistical offices of the individual republics are not permitted to touch the hot potato of national-income computations. The brewing of such stuff has to be confined to a highly secluded place, and the results are released in one figure only.

It is certainly not to the advantage of research that Prokopovicz' reproduction of Krasnolobov's evidence, which was as good as official, was ignored by all who wrote after him. These include Prokopovicz' long-time fellow worker, Alexander Baykov. Nor can a trace of Prokopovicz' findings be found in the study on Soviet national income made under the auspices of the National Bureau of Economic Research.[59] All this could hardly have happened with reference to a subject less hot than Soviet economics.

The methods of computing the indexes of national income in

[59] Studenski, "Methods of Estimating National Income in Soviet Russia," in National Bureau of Economic Research, *Studies in Income and Wealth* (New York, 1946), VIII, 195–234.

"unchangeable 1926–27 prices" may advantageously be reviewed briefly, with some features added:

Contribution from agriculture: This is manipulated upward by including the value of unharvested portions of crops, disregard of the diminution in private livestock, underestimate of the deductions for materials and depreciation, and the like.

Contribution from industry: This is manipulated upward by the use of "unchangeable 1926–27 prices," the biasing effect of which on the contribution of industry to national income is even greater than on the value of gross industrial output.

Contribution of construction: This is manipulated upward by the use of values in inflated current prices without any adjustments, as well as by other devices.

Contribution of trade: This is manipulated upward by the use of values in current prices, boosted by inflation and turnover taxes more than the other values.

Contribution of transportation: This alone seems to be computed with a certain degree of accuracy—or at least it was until 1937, the last year for which the contributions of the individual economic branches to national income were released, or until 1939, the year to which Krasnolobov's evidence pertains.

Soviet national-income indexes in "unchangeable 1926–27 prices," compared with indexes recalculated to real 1926–27 prices, are reproduced above (p. 114) from *The Soviet Economy during the Plan Era.*

The presumption was expressed in the beginning of this chapter that the computations of the national income in "unchangeable 1926–27 prices" may still be in use in the USSR.

In current prices.—The sound practice of publishing the estimates of national income in both 1926–27 and current prices continued through 1931, but the 1931 national income in current prices was given only in one figure.[60] Though the prices of producers' goods declined markedly from 1926–27, national income in current prices exceeded that in 1926–27 prices by 4.7 percent in 1929, 15.2 percent in 1930, and 25.2 percent in 1931, clearly reflecting the great rise in prices of consumers' goods. This was apparently all that the Soviets could endure. Not only was publication of the indexes in current prices discontinued, but any reference to them has been strictly avoided, and is obviously prohibited.

[60] M. Ragolskii, "Rates of Socialist Accumulation in the 1st Five-Year Plan Period," *Problems of Economics*, 1932, No. 6, p. 32. See also "Results of the Five-Year Plan of Reconstruction of the National Economy of the USSR," in *Bulletin of the Economic Institute of Prof. S. N. Prokopovicz* (Prague), February-March 1933, No. 102, pp. 17–18.

In later years computations of national income in current rubles were released only rarely, apparently to take advantage of the great boosting effect of turnover taxes on the share of private consumption in national income. Even then they were expressed only in percentage terms.

While the Soviets were very proud of their new giant factories and farms, it may have seemed undesirable to emphasize too heavily the immense sacrifices of the population. The year 1932 probably witnessed the largest share of new investments in national income (in real terms). To avoid showing this, the allocation of national income was officially stated only in current (1932) prices, although the distribution by origin was in terms of "unchangeable 1926–27 prices." So computed, the share of investment including "reserves" was equivalent only to 26.9 percent in that year, and the population was promised that by 1937 this share would decline to only 21.3 percent.[61] The percentages of course would have been much higher in terms of "unchangeable 1926–27 prices" and so would have been the absolute figures for the national income in 1932 prices. Neither was disclosed, however.

The promise of the 2d Plan to raise the share of private consumption in national incomes was not fulfilled entirely, but the share rose to 75.5 percent of the national income in 1937—again of course in current prices, but this time of the 1937 variety. However, the "spoiling" of the consumers as in the 2d Plan was not to be repeated; their share in national income was to decline again to 72.3 percent during the 3d Plan Period.[62]

Voznesenskii, in his analysis of the national income during the war years, likewise resorted to current prices and certainly on the same grounds—to make the immense sacrifices of the population during the war look smaller than they really were.[63] There was a new feature in Voznesenskii's statement in that he went a step further in concealment; he not only did not disclose the absolute figures from which his percentages were computed, but also suppressed evidence even on the prices in which his data were calculated.[64] The official data on allocation of the national income in

61 *2d Plan*, I, 427. 62 *3d Plan*, p. 197.

63 Voznesenskii, *op. cit.*, pp. 66–67.

64 Alexander Gerschenkron, in his review of Voznesenskii's book (*American Economic Review*, September 1948, XXXVIII, 653), correctly surmised that the computation was not in "unchangeable 1926–27 prices," but either in current prices or in those of a relatively recent year. The most reasonable assumption seems to be that 1940 prices were involved.

specified years may be recapitulated for what they are worth. They were as follows (in percentage of total):

Item	1932	Goal of 1937	1937	Goal of 1942	1940[a]	1942[a]	1943[a]
	(1932 prices)		(1937 prices)		(probably 1940 prices)		
Personal consumption...	73.1	78.7	75.5	72.3	74	67	61
New investment	26.9	21.3	24.5	27.7	19	3.5	7
Fixed capital	24.2	19.4	21.6	21.4	..	..	..
Variable capital	2.7	1.9	2.9	6.3	..	..	..
Armed forces	....	....	....	....	7	29.5	31

[a] As implied in Voznesenskii, *War Economy of the USSR During the Patriotic War*, pp. 66–67. See Gerschenkron's review of Voznesenskii's book, p. 654. Personal consumption in 1940, 1942, and 1943 includes that of the personnel in the armed forces. It is not known whether the same is true of the data from the two earlier sources.

After having eliminated the turnover taxes from Voznesenskii's percentages, Gerschenkron obtained the following data (in percentage of total):

Item	1940	1942	1943
Personal consumption	62	54	49
Net investment	28	5	9
Armed forces	10	41	42

While the allocation of national income by use in 1932 and 1937 (goal) was stated in the 2d Plan in 1932 prices, its distribution by origin remained in "unchangeable 1926–27 prices." To place the two sets of items side by side might have provoked comparisons which would have emphasized the absurdity of the Soviet national-income estimates, treated by some students almost as sacred. According to the 2d Plan, its goal for capital (fixed) investments in 1937 was 19.4 percent of national income (*current prices*). The contribution of construction to national income, however, was scheduled to be equivalent to 14.3 percent (*"unchangeable 1926–27 prices"*). Capital investments consist of the value of all construction rather than its contribution to national income only, plus the cost of all the equipment and its installation. With the contribution of construction to national income equivalent to 14.3 percent, the total fixed investments would have been close to 45–50 percent of national income (*"unchangeable 1926–27 prices"*), rather than 19.4 percent—the official figure in *current prices*. The desire to avoid this obvious

contradiction was possibly the reason that the 3d Plan presented in current prices the distribution both by use and by economic sector.

The 3d Plan did not state the distribution of national income by origin in terms of "unchangeable 1926–27 prices," but this is known from other official sources. Thus one can compare it with the same distribution in terms of current prices stated in the 3d Plan. Since the total for the 1937 national income in current prices was never disclosed, the comparison can be made only in percentage terms:

Sector	"Unchangeable 1926–27 prices"	1937 prices
Industry	52.8	56.7
Agriculture	15.6	23.5
Construction	13.0	5.6
Transport	5.5	2.7
Trade (including catering)	12.3	8.9
Others	0.8	2.6
Total	100.0	100.0

So far as concerns industry, the fact that the total proceeds of the huge turnover taxes were included in its contribution to national income in the computation in 1937 prices overcompensated for the effect of the fact that producers' goods had become very cheap, relatively, in terms of these prices. Otherwise the share of industry in the national income would have been much less in 1937 prices than in "unchangeable 1926–27 prices." The large increase in the share of agriculture in national income in terms of 1937 prices as compared with that in "unchangeable 1926–27 prices" in the first place reflects the effect of quasi turnover taxes realized in the kolkhoz markets (see p. 51). It is difficult to say whether this factor accounted for the total difference or other factors were involved. There are, after all, only the two figures from which to draw conclusions. Incidentally, the increased share of the agricultural output would have better fitted the role of agriculture in the Soviet economy in 1937 than does the figure in "unchangeable 1926–27 prices," if it were real and not simply the product of unusable "statistics."[65] It is noteworthy that the

[65] As was shown in Jasny, *The Socialized Agriculture of the USSR*, p. 775, the *disclosed* value of the agricultural output in "unchangeable 1926–27 prices" was substantially exaggerated. There is not the slightest reason to believe that the *undisclosed* value of the same output in current prices was computed correctly.

Soviets do not make any use of their own computation of the share of agriculture in national income in terms of current prices. The same share but in "unchangeable 1926–27 prices" is more to their liking for boasting that the USSR has become a highly industrialized country.

The shares of both industry and agriculture in the computation of national income at 1937 prices profited from the fact that in the computation in terms of "unchangeable 1926–27 prices" the contribution of construction was actually in terms of current prices, as well as from the fact that there was a great overstatement of the contribution of trade in it. These two items consequently did not increase proportionately when moving from the computation in "unchangeable 1926–27 prices" to the computation in current prices. As in the case of construction and trade, the share of transportation in national income (in percentage terms) declined considerably when transferred from the computation in "unchangeable 1926–27 prices" to that in current prices. There is, however, a substantial difference between the first two and the share of transportation. If, as is here accepted, the officially computed contribution of transportation to national income in "unchangeable 1926–27 prices" (in absolute terms) is roughly correct, the transfer of the same, or roughly the same, figure to the computation in current prices underestimates the role of transportation in the national economy even more than it is underestimated in "unchangeable 1926–27 prices." That the official national income estimates have no meaning is once again shown by the following comparison of the share of transport in the 1937 national income: official estimate in current prices, 2.7 percent; official estimate in "unchangeable 1926–27 prices," 5.5 percent; writer's estimate in real 1926–27 prices, 9.8 percent.

In the official computation of the national income by origin in "unchangeable 1926–27 prices" (available both in absolute and in percentage terms), the contribution of construction was actually expressed in 1937 prices (see above, p. 132). Hence this figure may be shifted to the computation of the 1937 national income in 1937 prices (available only in percentage terms), and the national income in 1937 prices—total and subdivided by origin—can be reconstructed. Then the 1937 national income by economic

sector in "unchangeable 1926–27 prices" and in current prices appears as follows (in billion rubles):

Sector	"Unchangeable 1926–27 prices"	1937 prices
Industry	50.9	126.7
Agriculture	14.9	52.5
Construction	12.5	12.5
Transport	5.2	6.0
Trade (including catering)	11.8	19.9
Others	1.0	5.8
Total	96.3	223.4

The figures in the second column must be close to those used by the official compilers as the 1937 national income in 1937 prices, although it is not understandable why the contribution of trade is here 19.9 billion rubles, in the light of Moskvin's figure of only 10 billion in 1936 (see p. 136).

PRICES FOR RESEARCH

All the "statistics" above described obviously put the analyst on the spot. To wade through all the official riddles and replace them with anything like exact data is a challenging job, but probably beyond human power. The present writer hopes only to avoid major blunders and to obtain data of a correct general order of magnitude.

Appraisals in foreign prices.—Clark was on the right track when, in an effort to avoid the tangle of "unchangeable," current, and other Soviet prices, he appraised the Soviet economy first in British and then in American prices. Wyler's computations are likewise in American prices. But with the evidence on Soviet prices as meager and contradictory as it is, this escape is by no means to a safe haven.

Unfortunately, Wyler never published the details of his computations, and his description of his procedure is too brief to clear all points and especially *to disprove the Soviet distortions and their deliberate or unconsidering reiterators abroad.* Clark applied the prices which he chose to data in physical terms, which themselves were very incomplete and in part arbitrarily estimated. He placed the output of gold as high as 9.5 percent of the total

industrial output in 1937.[66] This is an impossibly high figure, and also a clear indication that the industrial goods considered by Clark were only a small part of the total industrial output. The increase in total industrial output of 209 percent during 1928–38 implied in Clark's estimate nevertheless agrees well with the present writer's estimates. It seems, however, that with an increase in industrial output of this size, national income could not possibly have risen by only 26.1 percent during those years.[67]

The writer highly values Clark's and Wyler's findings. But, while agreeing with their estimates of the increase in Soviet national income in the 'thirties,[68] he seeks to show that both authors have underestimated the share of investment in total national income. There are also other disagreements.

Appraisal at unknown Soviet prices—actual figures.—With the official estimates of national income in "unchangeable prices" as good as useless and the few official estimates of it in current prices available only in the form of percentage distributions, interest turned to determinations of national income in current prices by the analysts themselves. Contrary to the Soviet practice of approaching national income from the side of its origin (economic sector), these analyses attack the problem from the aspect of disposition, namely, from data on wage payments, incomes of collective and individual peasants, investments, government expenditures, and the like. Thus the need of studying the prices in which the various sums are expressed seems to be by-passed.

Most material needed for such a computation is available from official sources, although only for isolated prewar years and of a nature that leaves one in doubt as to its reliability. But the value of the farm products consumed by the peasants out of their own produce or as obtained from their collective farms has to be estimated, and this proves difficult. To determine the income

66 Colin Clark, "The Valuation of Real National Income in Soviet Russia," *Review of Economic Progress* (Brisbane, Australia), February-March 1949, I, 8.

67 *Ibid.*, p. 9. Clark's recent study here cited does not seem to be an improvement on his earlier work, *A Critique of Russian Statistics* and "Russian Income and Production Statistics."

68 With reference to Clark, the acceptance pertains to his findings in the studies quoted in the above footnote. With reference to Wyler, it pertains only to the period 1928–37. In a friendly talk, Professor Wyler sought to explain the larger increase in national income from 1927 to 1940 by his evaluation of the men in the armed forces. The difficulty of correctly appraising the service of the armed forces and, for that matter, of all other services is the very reason why the present writer has thus far refrained from converting his own estimates of national income in rubles to dollars, the currency of a country with a wage level several times higher.

of the farm producers in kind is an involved problem even if it is approached in a normal way. The amounts retained in kind are difficult to ascertain, the selection of the prices to be used is rather arbitrary,[69] and the realized prices are not adequately known. Fantastically high estimates for the value of the consumption in kind have been put in circulation, though not in print.

The value of computations of national income in current prices per se is very limited, because no comparisons from year to year are possible. Moreover, even the percentage distributions of the national income by economic sector and by use in any one year as it actually was in prices of the respective years do not permit any useful conclusions, because of the special characteristics of the Soviet price system, and the chaotic condition that the price system has been in all the time.

Baran was the first to undertake a computation of national income in current prices from the income side. He determined the gross and net national product and national income in 1940. He was satisfied to refer to the prices in which his computations were made as current, with only a feeble attempt to find out what they really were.[70]

In a similar but much more painstaking way, Bergson computed the gross and net national product and the national income in 1937, subdivided both by use and by economic sector.[71] He also made a computation of the net national product with a distribution by economic sector in accordance with the Soviet concept of national income. Bergson's figure for the national income, Soviet concept, is 253.5 billion rubles or, after excluding a statistical discrepancy, 244.2 billion rubles; thus it is rather close to 223.4 billion rubles computed above for the same item by a rather sweeping procedure (see p. 143).

Bergson's estimate of the contribution of trade to national income in 1937 is 37.9 billion rubles or, after a further adjustment, 25.8 billion rubles, rather than roughly 20 billion rubles as im-

[69] However, the officially recommended procedure, namely of using the weighted average prices received for the marketed portion of the output (probably minus the products delivered as payment for the services of the MTS) seems acceptable. See *Dictionary-Handbook on Social-Economic Statistics* (1948), p. 93.

[70] P. A. Baran, "National Income and Product of the U.S.S.R. in 1940," *Review of Economic Statistics*, November 1947, XXIX, 229–30.

[71] Bergson, "Soviet National Income and Product in 1937." *Quarterly Journal of Economics*, May and August 1950, Vol. LXIV.

plied in the official estimate[72] and the correct figure of 11.8 billion (see above, p. 136). Furthermore, apparently to attain similarity with the official data, Bergson combined the contribution of construction with that of industry, and the contributions of "other factors" with those of transportation and communications. He wound up by claiming "remarkably close agreement" of his percentage distribution of the net national product by economic sector with that given officially.[73]

There is no reason to be enthusiastic about this similarity. As the present writer had shown, the official computation of the contribution of agriculture to national income in 1937 in terms of "unchangeable 1926–27 prices" was greatly manipulated,[74] and there is no reason to expect that the same item had been treated differently in the official estimate in 1937 prices. The fair agreement between Bergson's figure for the contribution of agriculture to the national income and the official one may indeed indicate that Bergson's figure for agriculture is overestimated.

Both Baran[75] and Abram Bergson[76] computed the value of the income of the farm population in kind in a way which might yield a correct result only by accident.[77] Baran had luck, Bergson did not.[78] Neither author checked his data with other available material.[79] Bergson grants that his computation is "subject to a siz-

72 See tabulation, p. 143.

73 Bergson, "Soviet National Income and Product in 1937. Part I," p. 240.

74 Jasny, *The Socialized Agriculture of the USSR*, chapter xxviii.

75 Baran, *op. cit.*, pp. 228–29.

76 Unpublished Appendix, mimeographed, obtainable from the author.

77 Bergson's procedure (in his mimeographed Appendix) was as follows: (1) the values of all deliveries and sales (total marketings) as officially stated in *current prices* are summed up; (2) to this sum, a percentage of marketings to gross output is applied, which is computed from unspecified data, of which part is in *1926–27 prices*, and thus the value of the gross output is determined; (3) 3 percent is deducted for losses; (4) 35 percent, a percentage taken from Soviet data in terms of *1926–27 prices* and pertaining to 1933–35, is applied and the value of net agricultural output in *current prices* is determined; and (5) the value of the net output minus the value of marketings yields the value of consumption in kind. Any error in this complicated procedure is obviously reflected in the balance with magnified force. Bergson neglected the fact that specifically for 1937 an official figure exists for the expenses which bring the value of the gross output to that of net output, namely 26 percent rather than Bergson's 35 percent (detailed computations of the writer indicate that the percentage actually was 44). It can furthermore be easily proved that the relation of marketings to output in "*unchangeable 1926–27 prices*" varies widely from that in current prices—from product to product and also for the total output.

78 Baran's figure for 1940 was 34.73 billion rubles (*op. cit.*, p. 229); Bergson's for 1937, 30 billion rubles (mimeographed Appendix). Both of them cannot be correct in view of the intervening great rise in prices in kolkhoz markets, and, possibly, to a small extent also enlargement of territory. The 1937 crop, however, was excellent.

79 While a great deal of evidence was available prior to Baran's writing (*op. cit.*), the task of using it would have been greatly simplified for Bergson by its compilation in Jasny, *The Socialized Agriculture of the USSR*, but he ignored this too.

able margin of error,"[80] but forgets about this qualification when he comes to conclusions, and Bergson's conclusions are of vast economic and political significance.

If there is anything remarkable in Bergson's inquiry, it is that, having spent much effort in analysis, he did not make the conclusions which directly force themselves on the analyst. According to Bergson,[81] the money income of households, minus statistical discrepancy, was 156.1 billion rubles (current prices) in 1937. Enough was known of Soviet prices when he wrote to make it certain that this sum represented only a small real value. Bergson himself used Prokopovicz' indexes of food costs of a worker's family.[82] He knew that food costs weighed so heavily in the budget of the Russians that the indexes of living costs could not have differed much from the indexes of food costs. Prokopovicz' index for 1937 (1928 = 100) is 835.[83] If 700 were used rather than 835, one would be close to a living-cost index for 1937 (1928 = 100) corresponding to the stated price index for food. Bergson's 156.1 billion rubles as the money incomes of households would have become equivalent to around 22 billion rubles of 1928 purchasing power. It is easy to see that, owing to growth of population in general and large increase in proportion of urban population with its several times higher per capita income specifically, as well as to the large shift from home processing to purchased goods and the great decline in incomes of the rural population in kind (there is some duplication in the enumerated factors), 22 billion rubles of 1928 purchasing power as the money income of the population in 1937 implies a substantial reduction in consumption levels from 1928 to 1937.[84]

Having failed in the analysis which might have given his inquiry great economic and political significance, Bergson goes completely outside the scope of his study to state that "living standards in 1937 probably were higher than in any year since 1928 . . . and according to many indications may even have

[80] Bergson, "Soviet National Income and Product in 1937. Part I," p. 223. According to computations of this writer, Bergson's error is close to 100 percent.

[81] *Ibid.*, Part I, p. 214.

[82] *Ibid.*, Part II, p. 430.

[83] Prokopovicz, *Russlands Volkswirtschaft unter den Sowjets*, p. 306. Bergson used the index of 866, from an earlier study of the same author, in "Soviet National Income and Product in 1937."

[84] A comparable figure had not been computed for 1928, but it is not likely to have been less than 16 billion rubles.

surpassed those of the earlier year."[85] In a footnote to this statement Bergson said: "I am guided chiefly by scattered Soviet statistics on the production of different kinds of consumers' goods." On the basis of the same official statistics the present writer, in *The Socialized Agriculture of the USSR* (pp. 84–96), showed that the diet of the population deteriorated greatly from 1928 to 1937. On the basis of the same official statistics he shows, in *The Soviet Economy during the Plan Era* (pp. 74–75), that the use of textiles, the major nonfood item in the budget of the Russians, declined substantially for each major population group from 1928 to 1937. On the basis of the same official statistics, Prokopovicz has shown that housing conditions in cities deteriorated greatly from 1928 to 1937.[86] And of course Bergson's own findings on the money incomes of the population, properly handled, show at a glance a decline of consumption levels from 1928 to 1937. Yet, while the statement of Bergson's quoted from Part I[87] was at least qualified with "probably" and "may," in Part II he makes the outright statement that "As has been mentioned [where?], 1937 was for the Soviet consumer a year of unexampled prosperity."[88]

According to Bergson the 1937 gross national product was 297.8 billion rubles at 1937 prices;[89] according to Baran, it was 432.29 billion rubles in 1940 at 1940 prices,[90] implying a rise of over 40 percent. How much of this was inflation? The percentage distributions of the national income implied in both computations are likewise meaningless.

As was indicated, there is an effective way to make estimates of national income in current prices useful by applying price indexes to the various items of which it is composed. The other and less effective way is to try to adjust the data for the various factors which distort the picture. Although the standard practice is still to use Soviet data in current prices as they are, the need for adjusting the estimates of national income in current prices, if they are used at all, was realized by Baran, the analyst who first determined it in those prices.

85 Bergson, "Soviet National Income and Product in 1937. Part I," p. 210.
86 Prokopovicz, *Russlands Volkswirtschaft unter den Sowjets*, p. 309.
87 Bergson, "Soviet National Income and Product in 1937. Part I," p. 210.
88 *Ibid.*, Part II, p. 423.
89 *Ibid.*, Part I, p. 220.
90 Baran, *op. cit.*, p. 229.

Appraisal at unknown Soviet prices — adjusted figures. — While the desirability of adjustments of the estimates of the Soviet national income in prices of the respective years is realized, the task proves difficult.

The first question is which factors must be considered in this connection. There is no doubt about the important turnover taxes and the frequently large subsidies from the treasury. The other factors that might need consideration are the small land rent and interest charges, low depreciation charges, low profits in general, and great variations in profitableness specifically.

Inadequate depreciation affects only gross national product; it makes this appear smaller than it actually is. Net national product or income is not affected, because the depreciation charge, whether adequate or inadequate, is deducted in any event. All other factors affect both the absolute size of national income (national product at market prices) and its distribution by economic sector and by use. The proceeds of turnover taxes blow up the national income; the nonconsideration of the other factors tends to depress it.

So far as concerns specifically distribution by economic sector, the share of industry in national income is affected most by the price peculiarities. All proceeds of turnover taxes are apparently lumped into the contribution of industry to national income in the USSR.[91] On the other hand, inadequate interest charges, small profits, and large subsidies depress it as well as the contributions of all other sectors. In addition to this, the contribution of agriculture is raised by the effects of quasi turnover taxes, but is kept down by the low prices paid by the state on obligatory deliveries and kontraktatsiya. Differences between various sectors in the proportions of relatively expensive "fresh" labor and relatively cheap "crystallized" labor are also of importance.

In the distribution of national income by use, private consumption is greatly enhanced by the proceeds of turnover taxes appearing primarily under this item. Negligible interest and rent charges, and small profits and large subsidies, depress the items investment and defense. These profit also from inadequate depreciation charges.

[91] The returns of turnover taxes by the Ministry (Commissariat) of Trade, occasionally mentioned, are probably derived from the industrial activities of this ministry.

Adjustments for all enumerated factors would have to be made in a computation of Soviet national income intended for comparison with the national incomes of capitalist countries. It is debatable whether adjustments need be made for the negligible rent and interest charges, and mostly inadequate profits, if the Soviet economy is analyzed as an isolated case; although, obviously, without profits and rent, any further expansion of the economic potential would have to occur exclusively at the expense of the treasury—hardly a sound setup. The effects of turnover taxes and of subsidies must be eliminated in any case.

The elimination of turnover taxes from the national-income estimates involves considerable technical and nontechnical difficulties—to no small extent because of the existence of quasi taxes (see p. 71). Like cancer, the huge turnover taxes pervade the whole economy, and to cut them out in one place does not insure that the rest of the body is not infected. Indeed, it is questionable whether full elimination is possible. Considerable technical difficulties are involved also in eliminating the effects of the other factors, owing to the spiral effect which operates so powerfully and whose magnitude is usually not realized (see pp. 88–89). The exact amount and distribution of subsidies among the various economic sectors and parts of sectors (such as producers' and consumers' goods) are not ascertainable.

Even if the technical difficulties of adjusting the value of the national income in current prices for all of the enumerated factors are overcome and the net product or national income in unknown prices in a certain year is correctly established, the value of such a computation remains limited. Absolute figures for different years remain incomparable because of inflation. Even the percentage distributions of the national income among the individual items (use, economic sector), although much superior to those obtained from unadjusted figures, can be used only with qualifications, in view of changes in production costs and possibly other factors, and one may be uncertain as to the qualifications that need to be made.

Baran did not bother greatly with adjustments.[92] All he did was to subtract the proceeds of the turnover tax from the net national product. In this way he obtained 302.38 billion rubles

[92] Baran, *op. cit.*, p. 230.

as the 1940 net national product. Contrary to this, Bergson's whole Part II[93] is devoted to adjustments of the original figures in order to arrive, as he says, at "real" costs. The new estimates are called those at "adjusted" prices. Of course Bergson remained in the dark as to the underlying prices, whether actual or adjusted, whole sums rather than the prices being adjusted. Specifically, Bergson adjusts his figures for turnover taxes and farm prices, but fails to adjust them for subsidies, differences in the profitableness between heavy and light industry, etc.

His adjustment for turnover taxes is made rather crudely (see his mimeographed Appendix Table 2). The figures on retail sales to households are reduced by 53.1 percent; those for munitions and gross investment other than "commodity inventories and stockpiles," by 7.5 percent; all other items—namely, army subsistence and the "commodity" item in communal services, government administration, NKVD (the present MVD), army subsistence, and "commodity inventories and stockpiles" — uniformly by 33.7 percent. The adjustments for too high prices in kolkhoz markets (for what is called quasi turnover taxes; see p. 51) and too low prices paid by the state on obligatory deliveries and kontraktatsiya are made under the assumption that "farm income is constant."[94] But the nominal incomes of both the urban and *rural* population are swelled by turnover taxes. Bergson eliminates the effect of turnover tax from the income of the urban population but retains it in the income of the rural population. This procedure, together with the great overestimation of the income of the rural population *in kind*, permits the conclusion that "the real income of farmers in 1937 may have compared quite favorably with that of the ordinary industrial worker."[95]

First of all, it is improper to speak of private incomes during the Plan era in terms of favorable, more favorable, or quite favorable. The question may only be raised: Whose incomes were less unfavorable? Second, the emphasis on the fact, if it was a fact, that in 1937 the ordinary industrial worker was even worse off than the peasant is improper. The year 1937 was the most favorable one for the peasants during the whole Plan era. In

[93] Bergson, "Soviet National Income and Product in 1937."
[94] *Ibid.*, Part II, p. 429. [95] *Ibid.*, Part II, p. 424.

1938 their incomes fell off considerably, and any improvement in 1939 was but small. Workers' incomes, however, were on the increase in 1937, and in the first half of 1939 they were not unsubstantially above this level. The problem of incomes as a whole, and the relation between urban and rural incomes specifically, is not put into the correct perspective in Bergson's analysis.

In his mimeographed Appendix (p. 1), Bergson utilized a study by Nesmii published in 1939. His analysis would have profited if he had made use of a study by the same author published a few months earlier, covering exactly the same ground.[96] Nesmii there (p. 103) reports on the purchases of industrial goods per surveyed peasant household in 28 oblasts in 1937. These amounted to 678.7 rubles, of which 659.2 rubles went for goods for personal consumption, distributed thus:

Clothing and shoes	364.5
Food	131.5
Nonfood goods	120.1
Cultural and other goods	43.1

The average investigated family consisted of slightly over 4 persons; hence the purchases of industrial goods amounted to little more than 160 rubles per capita—around 20 rubles in terms of 1928 prices. According to the *1st Plan*,[97] the rural population spent 30.52 rubles on industrial goods intended for personal use per capita in 1927–28. On top of the great reduction in total spending, manufactured goods included processed food to a much greater extent in 1937 than in 1927–28; in the earlier year the peasants produced this food (mainly bread) themselves, while in 1937 they were compelled to purchase it in government stores.[98] It is noteworthy that this direct approach indicates a much greater decline in consumption levels of the peasants than the one implied in my computations of incomes.[99]

On similar considerations the present writer cannot admit the significance of Bergson's finding that in "adjusted" prices, supposed to represent "real" costs, the contribution of agriculture to national income in 1937 was 62.7 billion rubles, and that of in-

[96] M. Nesmii, "Incomes of Kolkhozy and Kolkhozniki," *Planned Economy*, 1938, No. 9, pp. 73–107.

[97] *1st Plan*, Vol. II, Part 2, pp. 18–19, 74–75.

[98] On this compulsion, see *The Soviet Economy during the Plan Era*, pp. 60–61.

[99] *Ibid.*, chapter iv.

dustry only 77.2 billion rubles. The contribution of agriculture was overestimated by not eliminating the total effect of turnover taxes and by greatly overestimating the farm income in kind, while the effect of turnover taxes was eliminated in full from the contribution of industry.[100]

While subsidies from the treasury were not large in 1937, Bergson had to take account of them. Moreover, a correct assessment would require consideration of the fact that the profits of industry were supplied primarily by the industries of consumers' goods. Direct subsidies and the privilege of yielding little or no profit benefited primarily the industries of producers' goods and hence new investment and *defense.*

All in all, Bergson's figures in "adjusted rubles" do not represent "real" costs. The arbitrariness of the Soviet price system is too great to hope to eliminate all effects of it. As stated, the percentage distributions of the national income by use and economic sector in different years, even in "real" costs, will remain not comparable, because of uninterrupted changes in relationships between "real" costs in the various sectors of the national economy. Not until the estimates of national income are underpinned with price indexes will the results of such computations become a valuable part of a correct picture of the Soviet economy.[101]

100 Bergson's adjustments would have been different if he had analyzed the farm prices (see chapter i).

101 One wonders what connection exists between Bergson's findings with reference to changes in incomes from 1928 to 1937 and his manner of treating Soviet institutions, which might have been in order in wartime, but seems out of place in 1950. Two examples will suffice. In "Soviet National Income and Product in 1937. Part I" (p. 211), Bergson writes: "The Soviet collective farm usually is described as a cooperative organization. The characterization is substantially but not entirely correct." To whom does the word "usually" in this statement pertain? Not to V. P. Timoshenko, Leonard Hubbard, William Lissner, Lazar Volin, and every other careful student of Soviet economy abroad. The collective farm of today is a state farm without a wage bill, a farm which forces the peasants to work and does not guarantee them a reward. The only co-operative feature of the collective farm is its name.

In connection with Soviet loans, Bergson writes (*ibid.*, Part I, p. 234): "Apparently a fair proportion of the bond purchases reflect some degree of coercion." It is firmly established how many weeks' pay one has to sign up for. The purchasers of Soviet bonds have no right to sell them without permission, which is granted only in exceptional circumstances. The value of the bonds declines persistently because of inflation. In 1947 two-thirds of them were confiscated. Even if all this evidence had been absent, the very fact—much boasted of—that the loans are oversubscribed in a matter of hours describes their nature adequately. In the same way, the reports that 99.98 percent of all having suffrage rights cast their votes and that 99.72 percent of these voted the Party ticket (official announcement in Moscow papers of Mar. 15, 1950) adequately describe the brand of "democracy" in the Soviet Union. "The fifth state loan of reconstruction and development of national economy of the USSR, issued on May 3 [1950] in the amount of 20 billion rubles, was placed in the amount of 24,563 million rubles to the end of May 4" (*New Times*, Moscow, May 10, 1950). Those who subscribed in a few hours were not a few bankers, but perhaps 40 million or more different persons. According to *Pravda* (Dec. 17, 1947), a man was accused of illegal buying of 100-

Needed price studies.—The preceding discussion should leave no doubt about the immense importance of studying Soviet prices. At least four series of prices are badly needed: (*a*) current retail prices of consumers' goods as part of a cost-of-living index; (*b*) "unchangeable 1926–27 prices"; (*c*) current wholesale prices of industrially produced producers' goods, including construction (with and without turnover tax); and (*d*) current farm prices.

Familarity with the current retail prices of consumers' goods is indispensable for analysis of the value of retail turnover, consumption levels, real wages, national income, etc. The relative accessibility of these prices was the reason that they have been analyzed repeatedly, have been indeed the only ones subjcted to analysis. Yet this attention did not prevent such errors as the assertions that in 1928–40 the price of consumers' goods rose "by around 143%,"[102] or that "the price increase probably was greater than 145 percent,"[103] although the actual rate of increase exceeded 1,000 percent. But with reference to such a subject as the Soviet economy, no amount of familiarity will prevent mistakes, accidental or other.

Although a great deal of evidence is available on the retail prices of consumers' goods, a perfect job would be impossible in view of the multiplicity of prices for the same product and absence of adequate data on the proportions of product for which the various prices were effective. Prokopovicz computed indexes of retail food prices in 1928–40, using the principle of the food basket as recommended by the International Labour Office, and Moscow prices apparently in state and co-operative trade. With 1928 = 100, his indexes are 201 for 1932, 835 for 1937, and 1,382 for 1940.[104] Food and nonfood retail prices to consumers were repeatedly discussed also by Hubbard.[105] A discussion of postwar retail prices in comparison with those in 1940 is contained in a

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ruble bonds at 6 rubles and selling them at 10 rubles. The present writer has not made his mind up whether the Soviet "loans" have to be counted as tax only to 75 percent or fully to 100 percent.

102 P. A. Baran, "Currency Reform in the USSR," *Harvard Business Review*, March 1948, XXVI, 195–96.

103 Gerschenkron, "The Soviet Indices of Industrial Production," p. 220.

104 Prokopovicz, *Russlands Volkswirtschaft unter den Sowjets*, pp. 304–06. Prices in regular state and co-operative stores only.

105 Leonard Hubbard, *Soviet Trade and Distribution* (London, 1938), pp. 278, and others.

study by the United States Department of Labor.[106] Solomon Schwartz's article also deserves mention.[107] Wyler said that the cost-of-living index for foodstuffs and commodities rose "from 100 in 1928 to about 1,240 in 1940, according to rough estimates."[108] The indexes of retail prices in 1926–27, 1928, 1937, 1940, and 1948, a by-product of the living-cost index of urban wage earners computed by this writer, were compiled by use of the purchases of workers in 1925–26 as weights. The price indexes (the same is true of the living-cost indexes) are considered by the writer only as the first step.[109] The subject requires much more elaboration, especially the prices of nonfood products. The prices must also be weighted by the purchases of the rural population.

The study of the food prices in 1936–50 by Kravis and Mintzes[110] is useful, but the reason for starting with 1936, which was that data were easily obtained, does not weight too heavily.[111]

One of the most neglected yet most important parts of the Soviet price system is the prices of producers' goods. Either their indispensability for analysis of the Soviet economy is not recognized, or lack of data is given as the explanation for the neglect. In a study which originated in the Russian Research Center, Harvard University, Hodgman writes: ". . . scattered prices as are available are largely for years prior to 1930."[112] This lack of price data was a major reason for Hodgman's decision to construct an index of Soviet industrial production using data on output in physical terms as the base. Hodgman's efforts are to be greatly welcomed in view of the present state of Soviet statistics, although

106 Kravis and Mintzes, "Soviet Union: Trends in Prices, Rations, and Wages," *Monthly Labor Review* (U.S. Dept. Labor), July 1947. See also I. B. Kravis and Joseph Mintzes, "Food Prices in the Soviet Union, 1936–50," *Review of Economics and Statistics*, May 1950, XXXII, 164–68.

107 Solomon Schwartz, "The Living Standards of the Soviet Worker," *Modern Review*, New York, June 1948, II, 272–86.

108 Wyler, "The National Income of Soviet Russia," p. 508. It is rather strange that Baran and Gerschenkron disregarded the indexes computed by Prokopovicz and Wyler, although these pertained to the same years they talked about.

109 Jasny, *The Soviet Economy during the Plan Era*, pp. 57–60, Appendix Note, and Appendix Tables III and IV.

110 Kravis and Mintzes, "Food Prices in the Soviet Union, 1936–50," pp. 164–68.

111 *Ibid.*, p. 165.

112 D. R. Hodgman, "A New Production Index for Soviet Industry," *The Review of Economics and Statistics*, November 1950, XXXII, 329. The author has quite a few other categorical statements. On page 330 he writes: "No previous published index of Soviet industrial production has been constructed on the net value-added principle." The League of Nations' indexes of industrial production, which included also the USSR, were based on this principle. Strictly official data were used by it for the USSR and other countries.

final judgment must be reserved until appearance of the indexes themselves. But Hodgman would do well to emphasize that his index can be only a substitute for the real thing. So far as the writer studied the material, the changes in output of most machinery cannot be measured in physical terms. Moreover, data on the output in physical terms are very scarce, indeed much scarcer than price data. Even an index of Soviet industrial production based on all available evidence, i.e., *physical* and *price* data, would be far from perfect.

Actually the evidence on the prices of producers' goods is among that most abundant on the Soviet economy. The difficulty in utilizing it is only that the job requires more time than an isolated analyst can devote to it. It is hoped that the writer's *Soviet Prices of Producers' Goods*, which will follow this study, will show both the great importance of the subject and the possibility of handling it. Then an organization provided with adequate funds may decide to do a thorough job on the subject.

A study of farm prices would be immensely difficult; exact findings are virtually impossible. While some of the prices paid by the state for obligatory deliveries (except for the latest changes) are ascertainable, the large premiums paid for excess deliveries of technical crops exclude the possibility of computing the average prices received for them. The prices paid by the government for "purchases" are probably unobtainable; and only very scattered data are available on the prices in kolkhoz markets; the proper weights for these cannot be established. Certain summary results for individual and rather distant years may probably be obtained from such data as accounts for all kolkhozy, total turnover of kolkhoz markets, and the like. The writer feels so discouraged by the difficulties that thus far he has not put a thorough study of farm prices even on his waiting list.

APPENDIX AND INDEX

APPENDIX NOTE

THE PRICE PATTERN OF THE 4TH PLAN

The price level on which the 4th Plan was based warrants some discussion, partly because the assumption that the Plan scheduled deflation may be wrong, but also because it throws interesting light on the Plan as a whole.

The 4th Plan was very frugal of provisions expressed in current prices. They were limited to the following 1950 goals:

Average yearly wage .....6,000 rubles
Retail turnover of state and co-operative trade .....275 billion rubles
State expenditures on "social-cultural needs".....106 billion rubles

In addition there was the stipulation that the total social security payments of state organizations should amount to 61.6 billion rubles during 1946–50.

The wage provisions of the Plan started from the officially sanctioned wage level at the beginning of 1946 which permitted a not-too-brisk total rise of 15–20 percent by 1950. The existing excesses in wages were not sanctioned. The prices on which the retail-turnover provision for 1950 was based must have been the existing prices of rationed goods, i.e., the prices at the end of 1940 with only isolated increases during the war years. The exorbitant prices charged at the beginning of 1946 in state "commercial" stores could not have been involved in it.[1]

Thus far everything seems to be reasonably clear. One is not so certain with reference to prices of producers' goods underlying the Plan. The goals of the 4th Plan for capital investments and specifically construction were in terms of "estimate 1945 prices." The "estimate 1945 prices"[2] implied the operation in substance of the existing prices of centralized industry for producers' goods and of the railway freight rates established in 1939. But the "estimate 1945 prices" were merely calculating prices, the use of which in the 4th Plan, or elsewhere, did not imply the expectation of their operation in practice.

There is at least one Plan figure in rubles, however, which has as components the prices of certain producers' goods. It may possibly throw some

[1] The respective formulation in the 4th Plan was somewhat mysterious, namely, "to raise the value of the retail turnover of state and co-operative trade in 1950 (under consideration of the reduction of the level of prices of 1945) to 275 billion rubles." Reductions in 1945 apparently occurred only in prices in "commercial" stores. But these prices could not possibly have any connection with the goal for retail turnover, because the Plan specified that the 275 billion rubles as the retail turnover for 1950 implied an increase of 28 percent in volume of retail trade over 1940. The statement makes sense only if the 275 billion rubles were in prices of rationed goods. The statement on "the reduction of the level of prices in 1945" seems not to make any sense where it stands, but there is a remote possibility that it was a forewarning, inserted in an inappropriate place, of what was to come—namely, of prices which would be some kind of averages between the prices of rationed goods in regular trade and the prices in "commercial" stores. At the time the statement was made it was absolutely unintelligible.

[2] See Jasny, *Soviet Prices of Producers' Goods*, chapter vii.

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light on the prices of producers' goods on which the 4th Plan was based. This figure is the 1950 goal for the average cost of a ton-kilometer and passenger-kilometer (combined) to the railways, which, although not stated in the Plan itself, was certainly part of it. The respective 1950 goal was 3.85 kopeks.[3] The exact 1940 average cost for the present territory is not at hand, but since the 1941 goal for a territory slightly smaller than the present one was 2.625 kopeks,[4] it is safe to assume that the 1940 average cost in the present territory was about 2.80 kopeks. On this assumption the goal figure implied the expectation of an increase in the unit cost of about 30 percent from 1940 to 1950.

The railways were in very bad shape in 1945. There was no real reason for hoping that by 1950 the condition of the railway system would be fully restored to the 1940 level. Wages on the transport system, as has been shown, increased by 55 percent from 1940 to 1945. All fixed capital, including railways, in the areas at one time occupied by the enemy were reappraised at greatly enhanced values, and this implied a corresponding increase in depreciation charges, part of the unit cost.

The average unit cost was 4.69 kopeks in 1945. A more or less realistic plan, which might have been made by the railway administration, probably could not expect a decline in average cost by 1950 of more than 23 percent (the percentage implied in the 1950 goal of 3.65 kopeks), with wages as scheduled in the Plan and with the existing prices of fuel, materials, and rolling stock. That the expectation of such a decline would still not have been fully realistic is evidenced by the fact that in 1947 the average cost not only was no less than in 1945, but increased slightly more than was needed to offset the wage increases not foreseen in the Plan (the average cost increased by 0.45 kopeks from 1945 to 1947, the outlay on wages by 0.39 kopeks).[5]

The writer first assumed that the provisions of the 4th Plan in current prices were meant to indicate the price level scheduled for operation during the Plan period. The wording of the Plan was probably even deliberately chosen to create this impression. Nowhere was it hinted that, for example, 275 billion rubles as the 1950 retail turnover was anything but a real goal. As stated, the Plan explained that the retail turnover of 275 billion rubles implied an increase of 28 percent in volume over 1940. If the prices at the end of 1940, at which the 275 billion rubles were computed, were intended merely as a calculating unit, the figure of 275 billion rubles might as well have been omitted and the declaration on the retail trade limited to the statement on the 28 percent increase in volume over 1940.

Since the provisions of the 4th Plan implied the abolition of the fantastically high prices of unrationed consumers' goods in state "commercial" stores, as well as all the nonsanctioned excesses in prices of producers' goods and wages and the excessive rates for road transportation actually paid—in short, a full removal of the considerable wartime inflation (except in wages)—the writer felt himself justified in accepting the view that the Plan was based on a policy of deflation. But at a more advanced stage of analysis it occurred to him that the situation may have been quite different.

[3] See Jasny, *Soviet Prices of Producers' Goods*, chapter iii.

[4] *Ibid.*

[5] It is of interest that, while the railways were planning to continue receiving fuel and other materials at unchanged, very low prices, they apparently seem to have planned for themselves an increase in rates (see chapter iii of Jasny, *Soviet Prices of Producers' Goods*).

The perpetuation of the price-wage system as it existed early in 1946 (except for the prices in "commercial" stores) would have been not only unwise but absolutely impossible. It would have been unwise because the prices of producers' goods remained in substance at the prewar level in the face of a great deal of wartime inflation, including a substantial rise in wages. Hence, the decision to preserve the existing price pattern would imply perpetuation of the practice of very large subsidies to industry and railways, recognized as very harmful to the entire economy, for the duration of the Plan. Perpetuation of the existing price levels would have been absolutely impossible because the purchasing power of existing wages vastly exceeded the available supply of consumers' goods evaluated at the prices of rationed food. The existing wage level was incompatible with these prices if the consumers were not to be limited in their purchases by rationing. Rationing could not be abolished without a change in the price-wage relationships. Since an early end of rationing was promised in the 4th Plan, the Plan, if it were a real one, would have to include the new wage-price pattern. But it was not a real plan.

When the Party, early in September 1945, decided to release a five-year plan, conditions in the country were so disturbed that it was probably impossible to produce a well co-ordinated unit plan. The fact is that the USSR was not in a position to revise its extremely ill-adapted prices of producers' goods and railway rates until almost three more years had passed, in spite of the great disadvantages for the whole economy from the existing too low prices. When at last the new prices of producers' goods and railway rates were released effective January 1, 1949, they turned out to be unsatisfactory and had again to be revised twice in 1950.

However, the Party not only wanted a five-year plan but wanted it in such a hurry that no plan of that duration could have been worked out, even under normal conditions. Little more than six months passed from the time the order was given, early in September 1945, to begin work on the 4th Plan until its final approval by the Supreme Soviet in mid-March 1946. The 3d Plan was approved 14.5 months after it should have started to operate, implying a total time of preparation of much more than two years.

Since it was impossible to construct a real plan in the short time allotted, it must have been decided to have the various agencies hastily devise individual plans and to combine these individual, inevitably discordant plans into one document having the semblance of a plan. As time did not permit the working out of a new price-wage pattern, the new Plan was based on *existing prices*. But in this case the basing of the goals on existing prices was not a declaration of price policy but only a convenience, and the assumption that the 4th Plan scheduled a deflation or, for that matter, contained any declaration of price policies, is groundless.[6]

The basing of the 4th Plan on the existing wages and prices (except for the prices in state "commercial" stores), even as a convenience, was of course equivalent to bringing the incompatibility between wages and the prices of consumers' goods into the Plan. The incompatibility is much less conspicuous in the Plan only because the Plan dealt not with 1946 or 1947 but with 1950, by which time the output of consumers' goods was expected to more than double.

[6] Only with reference to the wage goal does it seem probable that the Plan was meant to operate in real life.

Average wages in 1950 were to be about 45 percent higher than in 1940, while the number of wage earners was to increase about 10 percent. Hence total spending power of the wage earners was to rise about 60 percent. The official interpretation of the goal for retail turnover of 275 billion rubles in the Plan itself is, however, that it implied an increase of 28 percent in the volume of retail trade over 1940. The Plan did not state how it expected to bridge this large disproportion. The bridging might, for example, have occurred by compulsory borrowing on a fantastic scale. No thought probably was given to the problem, or the contradiction, if noticed, was disregarded, since it was not expected ever to arise in practice.

If the wage level existing at the inauguration of the 4th Plan was expected to continue to operate and the wage goal to be realized, the 4th Plan after all contained an item in the field of prices in the wide sense which was overthrown soon after approval of the Plan. If the wage level and wage goal were not expected to operate, the question arises whether or not it was realized during the preparation of the 4th Plan that even the pattern of the nominal-wage structure would have to be changed. The prewar nominal and real wages showed wide differentials of which the Soviets were extremely proud. Nominal wages kept this feature later, but the differentials in real wages were considerably narrowed by war conditions. The minimum prices fixed for rationed goods were relatively moderate; fantastic prices were to be paid for excess quantities, accessible almost exclusively to those in high brackets. In 1946 the available amount of consumers' goods was still so small that, after the low-bracket wage earners were provided with sub-minimum quantities, not enough remained to permit much better consumption by those in high brackets. Hence, simultaneously with the great increase in the prices of consumers' goods effective September 16, 1946 (in preparation for the later greatly delayed derationing), the gradation of nominal wages was considerably diminished by raising the wages of those in low and medium brackets (the idea of a cutback of wages for those in the high brackets did not appeal even to the almighty Soviet dictatorship). This wage raise, whatever its reason, implied the necessity of an even higher all-round price level than would otherwise have been needed.

There are numerous detectable lacks of tie-ins in the 4th Plan, other than that between wages and the supply of consumers' goods, which support the idea that the 4th Plan was largely a combination of individual plans, for convenience calculated in existing prices. Space limitations prevent discussing them here.

In addition to the great advance of retail prices effective September 16, 1946, the Soviets extracted almost all money in circulation and canceled most of the state indebtedness by confiscation in December 1947. After this the value of the ruble was officially declared as increased, i.e., a successful deflation was proclaimed. The abolition of the high prices in "commercial" stores and kolkhoz markets which accompanied derationing did not justify this claim, in view of the preceding large increases in prices of consumers' goods in regular trade and more moderate boosts of wages, and of the later great advance in prices of producers' goods effective January 1, 1949.

There is not a hint in the released portion of the 4th Plan[7] of all the price

[7] The mysterious phrase, "under consideration of the reduction of the level of prices of 1945," can properly be disregarded as made in absolutely unintelligible form.

and wage development which started in September 1946 and continued through 1950. One may be certain that all or most of this development was not seriously planned at the time the 4th Plan was being prepared; if it was planned, the planning may have been done by the Politbureau—behind Gosplan's back. The Plan was based on existing prices, as calculating units, leaving to the future the decisions on the price pattern which was to operate in practice; only the wage provisions may have been intended to be realized.

APPENDIX TABLES

TABLE I.—TURNOVER TAXES ON SPECIFIC GOODS*

Commodity	Rate (*percent*)	Date effective
CONSUMERS' GOODS		
Grain, Ukraine (rubles per quintal):[a]		
Wheat, soft	73.00	April 1, 1940
Wheat, hard	74.00	
Rye	60.00	
Barley	46.00	
Oats	25.00	
Buckwheat	289.50	
Meal, whole-rye, Ukraine (rubles per quintal)[a]	66.50	April 1, 1940
Bread and bakery products from taxed flour (percent of wholesale price):[b]		
Common rye and wheat bread	0	September 1, 1936
Dietetic breads	1	
Better and fancy breads	3–30	
Potatoes (percent of retail price)[c]	48–62	January 24, 1940
Meat (percent of retail price):[d]		
Beef	67–71	January 24, 1940
Veal, pork, mutton	62–67	
Poultry	20–43	
Sausage, frankfurters, smoked meat	50–69	
Fish (percent of retail price):[e]		
Fish, other than herring	39–53	April 10, 1940
Herring, Caspian	35–50	
Caviar	40	
Canned fish, according to kind	5–50	
Fats (percent of retail price):[f]		
Butter	60–66	April 10, 1940
Cheese, full-fat	69	
Cheese, melted and smoked	45	
Cheese, American-type and cream	15	
Margarine, table	59–67	
Sugar (percent of retail price)[g]	73	January 24, 1940
Candies, probably from taxed sugar (percent of retail price)[h]	10–30	January 1, 1940
Salt (percent of wholesale price):[i]		
Bulk	70–80	May 1, 1940
Wrapped, small packages	35–42	

TABLE I (*Continued*)

Commodity	Rate (*percent*)	Date effective
CONSUMERS' GOODS		
Beverages (percent of retail price):		
Vodka[j]	84	January 1, 1940
Other liquors[j]	55–78	
Soft drinks[k]	20	April 10, 1940
Tobacco (percent of retail price):[l]		
Cigarettes	75–88	January 1, 1938
Makhorka	70	
Cotton goods (percent of wholesale price):[m]		
Calico	55	June 1, 1937
Other goods	62–65	
Woolen goods (percent of wholesale price):[n]		
Worsted fabrics	62	April 1, 1936
Coarse fabrics, produced by enterprises of the Commissariat of Light Industry of RSFSR	43	June 1, 1937
Coarse fabrics, produced by other state enterprises	20–35	
Shoes, leather, from taxed leather (percent of retail price):[o]		
Russian leather	10–26	July 11, 1940
Chrome	26–40	
Soap (percent of wholesale price):[p]		
Laundry, from untaxed fat	61–71	March 1, 1936
Laundry, from taxed fat	6–9	
Toilet, from untaxed fat	67.5–69.5	
Toilet, from taxed fat	40.5–51.5	
Bicycles (percent of wholesale price)[q]	15	Date of enactment not stated in source; in effect in 1938
Radio receivers (percent of retail price less retail margin)[r]	25	January 1, 1940
Wrist watches, ladies' (percent of retail price less retail margin)[s]	70	January 1, 1940
Kitchenware, aluminum (percent of retail price less retail margin)[t]	50–60	January 1, 1940
Water supplied by municipalities (percent)[u]	1	October 1, 1936

TABLE I (*Continued*)

Commodity	Rate (*percent*)	Date effective
CONSUMERS' GOODS		
Electric current, all purposes (percent):[v]		
Moscow and Leningrad	23	May 1, 1937
Elsewhere	3	
Medicine (percent of wholesale price)[w]	1	April 1, 1936
Eyeglasses (percent of wholesale price)[x]	15	Date of enactment not stated in source; in effect in 1938
PRODUCERS' GOODS[aa]		
Coal (percent of wholesale price)[bb]	0.5	April 1, 1936
Naphtha products (percent of wholesale price):		
Kerosene[cc]	71.7	January 1, 1940
Gasoline[dd]	80	March 1, 1937
Fuel oil and lubricants[dd]	60.5	
Metals and concrete (percent of wholesale price)[ee]	0.5	April 1, 1936
Machinery for industry (percent of wholesale price)[ff]	1	April 1, 1936
Varnishes and dyes:		
Varnish from untaxed linseed oil (percent of wholesale price)[gg]	60	October 31, 1935
Shellac and polish (percent of retail price)[hh]	66	September 20, 1939
Other varnishes (percent of retail price)	0.5	
Ocher, red lead, aniline dyes (percent of wholesale price)[ii]	0.5–1	April 1, 1936
Tarpaulin (percent of wholesale price)[jj]	24	July 1, 1937
Bags, from untaxed materials (percent of wholesale price):[kk]		
Flax, for industry	8	July 1, 1937
Flax, for the "broad market"	43	

TABLE I (*Concluded*)

Commodity	Rate (*percent*)	Date effective
PRODUCERS' GOODS		
Flax-jute, for industry	11	July 1, 1936
Flax-jute, for the "broad market"	44	
Sickles and scythes (percent of wholesale price)[ll]	13	April 1, 1936
Plows and harrows (percent of wholesale price)[mm]	1	April 1, 1936
Autobusses, trucks, automobiles (percent of wholesale price)[nn]	2	April 1, 1936

* Some of the rates of the turnover taxes were published in the collection of laws, enactments, orders, etc., of the Soviet government, issued periodically. The title varies; for example, in 1940 it was *Collection of Decisions and Orders of the Government of the USSR* (Moscow). All editions will be cited hereinafter as *Collection of Laws*, with year, issue, and number of article.

In 1938, the USSR Commissariat of Finance issued an *Alphabetic List of Industrial Goods with Rates of Turnover Taxes and Budgetary Trade Margins* (Moscow, 1938), which did not always state the date of enactment. Hereinafter this will be cited as *Alphabetic List*, with page number.

For additional information on rates of turnover taxes, especially for earlier dates, see articles of the late Paul Haensel, the only student to compile rates for a large number of goods: "The Sales Tax in Soviet Russia," *Tax Magazine*, January 1936, XIV, 18–22; "Public Finance in the Union of Soviet Socialist Republics" *ibid.*, September-December 1938, XVI, 517–20, 555–57, 591–94, 628–37 659–62 686–90, 724–26, 756–63; and "Recent Changes in the Soviet Tax System," *Taxes—the Tax Magazine*, November 1941 XIX, 675–82, 698.

[a] *Collection of Laws*, 1940, No. 7, Art. 213.
[b] Depending on type; *ibid.*, 1936, No. 46, Art. 403.
[c] Depending on price; *ibid.*, 1940, No. 12, Art. 298.
[d] Depending on region; *ibid.*, 1940, No. 12, Art. 297.
[e] Depending on region; *ibid.*, 1940, No. 28, Art. 683.
[f] Depending on region; *ibid.*, 1940, No. 21, Arts. 518 and 519.
[g] *Ibid.*, 1940, No. 12, Art. 295.
[h] Depending on type; *ibid.*, 1940, No. 2, Art. 37.
[i] Depending on type, producer, and size of package; *ibid.*, 1940, No. 16, Art. 394.
[j] Depending on type; *ibid.*, 1920, No. 7, Art. 212.
[k] *Ibid.*, 1940, No. 21, Art. 518.
[l] Depending on type; *Alphabetic List*, pp. 266–67.
[m] Depending on type; *ibid.*, pp. 188–89.
[n] Depending on type; *ibid.*, p. 195.
[o] Depending on type; *Collection of Laws*, 1941, No. 2, Art. 29.
[p] Depending on type; *ibid.*, 1936, No. 20, Art. 184.
[q] *Alphabetic List*, p. 25.
[r] *Collection of Laws*, 1940, No. 12, Art. 294.
[s] *Ibid.*, 1940, No. 7, Art. 215.
[t] Depending on type; *ibid.*, 1941, No. 2, Art. 30.
[u] *Alphabetic List*, p. 27.
[v] *Collection of Laws*, 1937, No. 59, Art. 257. According to P. Vladimirov ("For Profitable Operation of Enterprises," *Questions of Economics*, Moscow, 1948, No. 8, p. 32), turnover tax on electric current has been abolished since Jan. 1, 1949.
[w] *Alphabetic List*, p. 90.
[x] *Ibid.*, p. 123.
[aa] Turnover tax on producers' goods abolished since Jan. 1, 1949 (see Vladimirov, *loc. cit.*). The new regulation obviously does not pertain to petroleum products and varnish from linseed oil.
[bb] *Alphabetic List*, p. 203.
[cc] *Collection of Laws*, 1940, No. 12, Art. 296.
[dd] *Ibid.*, 1937, No. 39, Art. 160.
[ee] *Alphabetic List*, pp. 8, 45, 90, 177, 217.
[ff] *Ibid.*, p. 89.
[gg] Less tax on linseed oil, if taxed oil is used; *ibid.*, pp. 120, 255.
[hh] Probably from linseed oil; *Collection of Laws*, 1940, No. 2, Art. 41.
[ii] *Alphabetic List*, pp. 8, 123, 183.
[jj] *Ibid.*, p. 18.
[kk] *Ibid.*, pp. 92–93.
[ll] *Ibid.*, pp. 72, 170.
[mm] *Ibid.*, pp. 17, 136.
[nn] *Ibid.*, p. 5.

TABLE II.—PRICES DURING THE PLAN ERA*

(Rubles per indicated unit, and indexes 1926/27 = 100)

Commodity	Unit	1926/27		1930		July 1, 1936		Dec. 31, 1940		Dec. 16, 1947		Mar. 1, 1949		July 1, 1950[a]	
		Rubles	Index	Rubles	Index	Rubles	Index	Rubles	Index	Rubles	Index	Rubles	Index	Rubles	Index
Producers' Goods															
Coal	ton	11.61	100	10.63	91.6	21.78	187.6	36.25	312.2	36.25	312.2	120.50	1,037.9	120.5	1,037.9
Fuel oil	"	48.10	100	48.10	100.0	48.10	100.0	137.00	284.8	137.00	284.8	355.00	738.0	....	....
Kerosene	"	55.00	100	55.00	100.0	500.00	909.0	700.00	1,272.7	700.00	1,272.7	700.00	1,272.7	....	....
Pig iron	"	66.00	100	58.00	87.9	145.00	219.7	174.00	263.6	174.00	263.6	.....	.....	....	....
Steel, structural	"	124.45	100	114.50	92.0	267.00	214.5	283.00	227.4	283.00	227.4	705.00	566.5	....	....
Steel, rails, railway	"	110.00	100	112.00	101.8	259.00	235.4	318.00	289.1	318.00	289.1	951.00	864.5	....	....
Steel, roofing	"	203.00	100	195.00	96.0	445.00	219.2	788.00	388.2	788.00	388.2	2,650.00	1,305.4	....	....
Copper, sheets	"	1,760.00	100	1,520.00	86.4	2,450.00	139.2	6,150.00	349.4	6,150.00	349.4	9,000.00	511.4	....	....
Timber	cu. m.	17.36	100	13.89	80.0	17.40	100.2	17.40	100.2	23.00	132.5	104.50	602.0	75.24	433.4
Lumber	"	33.61	100	30.25	90.0	78.50	233.6	78.50	233.6	78.50	233.6	252.00	750.0	180.54	537.2
Bricks, red	1,000	43.40	100	33.00	76.0	56.00	129.0	128.00	294.9	140.00	322.6	410.00	944.7	....	....
Cement, Portland	ton	29.00	100	25.23	87.0	57.16	197.1	89.00	306.9	89.00	306.9	190.00	655.2	121.60	419.3
Window glass	sq. m.	2.09	100	1.91	91.4	2.90	138.7	4.49	214.8	7.61	364.1	12.08	578.0	....	....
Paper, newsprint	ton	272.50	100	224.00	82.2	392.00	143.8	750.00	275.2	750.00	275.2	.....	.....	....	....
Sulphuric acid	"	53.06	100	43.72	82.4	100.00	188.5	152.00	286.5	152.00	286.5	270.00	508.8	172.80	325.7
Soda ash	"	73.13	100	60.26	82.4	122.21	167.1	160.00	218.8	360.00	492.3	540.00	738.4	345.60	472.6
Rope	"	1,218.00	100	1,160.00	95.2	4,800.00	394.1	8,300.00	681.4	8,300.00	681.4	16,000.00	1,313.6	....	....
Leather transmission belts	meter	1.87	100	1.83	98.0	4.84	258.8	4.84	258.8	4.84	258.8	17.60	941.2	....	....

		Consumers' Goods											
Bread, rye, common	kg.	.08	100	.08	100.0	.85	1,062.5	1.00	1,250.0	3.00	3,750.0	2.70	3,375.0	2.00	2,500.0
Flour, 3d grade	"	.21	100	.19	95.0	2.40	1,200.0	2.40	1,200.0	6.20	3,100.0	5.58	2,790.0	3.91	1,955.0
Milled groats	"	.166	100	.168	101.2	2.16	1,301.2	3.00	1,807.2	6.00	3,614.4	5.40	3,253.0	4.60	2,771.1
Beef	"	.883	100	1.040	117.7	9.00	1,019.2	18.00	2,038.5	30.00	3,397.5	27.00	3,057.8	20.52	2,323.9
Milk	liter	.22	100	.25	113.6	1.30	590.1	2.30	1,045.4	3.50	1,590.9	3.50	1,590.9	3.15	1,431.8
Butter	kg.	2.20	100	3.00	136.4	16.00	727.3	26.00	1,181.8	64.00	2,909.1	57.60	2,618.2	40.32	1,832.7
Sunflower-seed oil	"	.522	100	.486	93.1	13.50	2,586.2	15.65	2,998.1	30.00	5,747.1	30.00	5,747.1	27.00	5,172.4
Eggs	10	.507	100	.700	138.1	4.00	788.9	7.50	1,479.3	14.00	2,761.3	14.00	2,761.3	11.90	2,347.1
Sugar, lumps	kg.	.717	100	.700	97.6	4.10	571.8	5.50	767.1	15.00	2,092.0	15.00	2,092.0	13.20	1,841.0
Calico	meter	.403	100	.340	84.4	3.20	794.0	5.50	1,364.8	10.10	2,506.2	10.10	2,506.2	8.58	2,129.0
Shoes, men's leather	pair	8.75	100	8.75	100.0	80.00	914.3	170.00	1,942.8	260.00	2,971.4	260.00	2,971.4	221.00	2,525.7
Soap, laundry	400 g.	.163	100	.137	84.0	1.20	736.2	1.24	760.7	5.20	3,190.2	5.20	3,190.2	3.12	1,914.1
Kerosene	liter	.104	100	.100	96.1	.47	451.9	.65	625.0	2.00	1,923.1	2.00	1,923.1	1.80	1,730.8

* The prices shown above provide the data presented in Chart 1, p. 17. These data represent a selection from an extensive compilation of Soviet prices which will be presented, with citation of sources and explanation of interpolations, in a study now in press.

[a] The prices of producers' goods are from L. Maisenberg, "The System of Wholesale Prices and the Strengthening of Khozraschet," *Planned Economy* (Moscow), 1950, No. 6, p. 59. The prices of all other tabulated goods were also probably reduced, but the actual amounts were not stated. Gasoline was reduced in price 20 percent, but the author neglected to say what happened to the price of kerosene. The prices of chemicals, according to Maisenberg, were reduced by more than 20 percent; the figures in the table represent a reduction of only 20 percent.

By the time page proof arrived, the writer had obtained some of the prices introduced since Jan. 1, 1950 (though not those of July 1, 1950). Since Chart 1 could not be changed, it seemed inappropriate to change this table. See *Soviet Prices of Producers' Goods*, Appendix Table XX, for the new prices.

The prices of consumers' goods became effective on Mar. 1, 1950.

TABLE III.—USSR: INDUSTRIAL OUTPUT AS PLANNED FOR 1941, BY AGENCIES*
(*Million rubles except as noted*)

Commissariat or other agency	"Unchangeable 1926–27 prices"[a]	Current prices		Relatives	
		Production costs[b]	Charged by industry[c]	Production costs to value in "unchangeable 1926–27 prices"	Value in current prices to value in "unchangeable 1926–27 prices"
Total (*billion rubles*)	162.0	213.5	406	131.8	250.6
Coal industry	2,687	6,206	6,276	231.0	233.6
Petroleum industry	3,680	3,674	16,200	100.0	440.2
Electric stations	2,892	3,395	4,370	117.4	151.1
Iron industry	7,252	14,621	15,355	201.6	211.7
Nonferrous metals	2,129	7,800	8,640	366.4	405.8
Intermediate machinery .	8,850	8,750	9,810	98.9	110.8
Heavy machinery	3,780	4,440	4,752	117.5	125.7
General machinery	2,730	2,440	2,875	89.4	105.3
Electric industry	4,141	3,676	4,032	88.8	97.4
Defense industries	31,880	32,838	40,300	103.0	126.4
Chemical industry	5,217	7,992	9,547	153.2	182.9
Building materials	1,840	3,160	3,230	171.7	175.5
Forestry products	3,538	7,380	7,408	205.7	209.3
Paper industry	861	1,320	1,824	153.3	211.7
Textile industry	10,700	28,080	46,000	262.4	429.9
Light industry	8,821	20,300	28,260	230.1	320.3
Fish industry	996	3,534	5,988	354.8	601.2
Meat-milk industry	4,600	8,012	23,115	174.2	502.5
Food industry	13,050	39,666	84,500	303.9	647.5
Procurements	2,647	.....	31,261	.....	1,180.9
Cinematography	412	354	430	85.9	104.4
Transportation	1,800	2,735	.....	151.9	.....
Health	805	485	.....	60.2	.....
Wood alcohol	5	45	.....	900.0	.....
Other specified	14,209	.....	.....	.....	.....
Total specified 139,522		210,903	354,173	.....	.....
		Special computation			
7 commissariats[d]	44,494	.....	235,324	.....	528.9
6 commissariats[e]	41,847	103,266	204,063	246.8	487.7
Others except the 7 (*billion rubles*)	117.5	.....	171	.....	145.5

* Data from USSR, *State Plan of Development of National Economy of the USSR for 1941 (Supplements to the Order of SNK USSR and TsKVKP (b) No. 127 of January 17, 1941)* (no date or place of publication given), pp. 9–11, 566–67. The output in "unchangeable 1926–27 prices" is the usual such data. The output at "current prices" is the so-called marketable output, i.e., current output plus unfinished production at beginning of year, minus unfinished production at end of year. For most ministries this makes little difference.

[a] Except for the new regions (western portions of the Ukraine and White Russia and Karelo-Finlyandia). The figure for the Commissariat of Trade not shown here separately (2,934 million rubles) is in current prices which include turnover taxes; the figure had to

be included without correction also in the amounts stated in "Total specified" and "Others except the 7" and all these amounts are consequently not accurate.

[b] The output of the so-called marketable production of the so-called industrial commissariats only. On the basis of the 1938 output data in "unchangeable 1926–27 prices," these commissariats accounted for close to 80 percent of the total industrial output. Production costs include turnover taxes on the utilized raw materials.

[c] Including all turnover taxes.

[d] Commissariats collecting most turnover taxes (Textiles, Light Industry, Fish, Meat-milk, Food, Procurements, and Petroleum).

[e] As in note *d*, except for the Commissariat of Procurements.

TABLE IV.—INDEXES OF SOVIET INDUSTRIAL PRODUCTION

Year	Large-scale industry					Total industry						
	Correct official			Official manipulated indexes[d]		Correct official			Gerschenkron's indexes[h]	Author's indexes[i]	Correct official[f]	Official manipulated[j]
	Pre-World War I prices[a]	"Unchangeable 1926–27 prices"[b]	Indexes[c]			Pre-World War I prices[e]	"Unchangeable 1926–27 prices"[f]	Indexes[g]				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Billion rubles or indexes (*1913 = 100*)											
1913	6.39	.....	100	100	100	8.43	....	100	100	...	...	.....
1928	8.53	16.89	133.5	154.3	.....	10.52	21.8	124.8	110.8	...	...	.....
1929	....	21.20	167.6	194.4	.....	....	25.7	147.1	158.3	...	...	.....
1930	....	27.70	218.9	252.0	.....	....	....	.....	196.1	...	...	.....
1931	....	34.16	270.0	314.7	.....	....	....	.....	237.6	...	...	.....
1932	....	38.83	306.9	359.0	.....	....	43.5	249.0	265.9	...	...	.....
1933	....	42.04	332.3	391.9	380.5	....	45.7	261.6	281.4	...	...	.....
1934	....	50.48	399.0	.....	457.0	....	....	.....	336.0	...	...	.....
1935	....	62.14	491.2	.....	562.6	....	67.9	388.7	411.6	...	...	.....
1936	....	80.93	639.7	.....	732.7	....	85.6	490.0	528.8	...	...	.....
1937	....	90.17	712.7	.....	816.4	....	95.4	546.1	588.9	...	...	.....
1938	....	100.37	793.3	.....	908.8	....	106.1	607.4	653.8	...	...	.....

	Indexes (*1928 = 100*)									Indexes (*1929 = 100*)	
1928	....	.....	100.0	100.0	.....	....	....	100.0	100.0	100	...	.....
1929	....	.....	125.5	126.0	.....	....	....	117.9	142.9	...	100	100
1930	....	.....	164.0	163.3	.....	....	....	.....	177.0	...	...	130.7
1931	....	.....	202.2	204.0	.....	....	....	.....	214.4	...	...	184.7
1932	....	.....	229.9	232.7	.....	....	....	199.5	240.0	165	168	199.9
1933	....	.....	248.9	254.0	246.6	....	....	209.6	254.0	...	178	240.1
1934	....	.....	298.9	.....	296.2	....	....	.....	303.2	...	...	295.5
1935	....	.....	367.9	.....	364.6	....	....	311.5	371.5	...	260	384.9
1936	....	.....	479.2	.....	474.9	....	....	392.7	477.3	...	334	428.9
1937	....	.....	533.9	.....	529.1	....	....	437.6	531.5	287	372	477.4
1938	....	.....	594.3	.....	589.0	....	....	486.7	590.1	...	413	..[?]

[a] See p. 126.

[b] Data for 1928–33 from USSR Gosplan, Central Office of National-Economic Accounting, *Socialist Construction USSR, 1936* (Moscow, 1936), pp. xxii–xxiii; data for 1934–38 from Joseph Stalin, *Problems of Leninism* (11th ed., Moscow, 1947), p. 576.

[c] Indexes computed from data in columns 2 and 3, chained.

[d] Data in column 5 from USSR Gosplan, Central Office of National-Economic Accounting, *Socialist Construction USSR, 1934* (Moscow, 1934), p. 11; data in column 6 from Stalin, *op. cit.*, p. 577. Indexes with 1928 = 100 are based on the index of 154.3 for 1928.

[e] Data from USSR Gosplan, *Five-Year Plan of National-Economic Construction* (3d ed., Moscow, 1930), I, 15. The 1927–28 figure was raised to make it valid for 1928 on the basis of data in USSR Gosplan, *Control Figures of the National Economy USSR for 1929–30*), p. 39. The same procedure was used in the tabulation on p. 126.

[f] Data for 1928, 1932, and 1937 from I. Krasnolobov, "Factors of Growth of National Income in a Socialist Society," *Problems of Economics* (Moscow), 1940, No. 9, p. 62; data for 1929, 1933, and 1938 from USSR Gosplan, Central Office of National-Economic Accounting, *Socialist Construction USSR, 1933–38* (Moscow, 1938), p. 34; data for 1935 and 1936 calculated from the indexes in League of Nations, Econ. Intell. Serv., *Statistical Year-Book, 1941/42* (Geneva, 1943), p. 164.

[g] Indexes computed from data in columns 7 and 8, chained.

[h] Alexander Gerschenkron, "The Soviet Indices of Industrial Production," *Review of Economic Statistics*, November 1947, XXIX, 218, and "The Rate of Industrial Growth in Russia since 1885," in *The Tasks of Economic History*, *Journal of Economic History*, Supplement VII, 1947, p. 161.

[i] See Jasny, *The Soviet Economy during the Plan Era*, Chart 1, p. 23.

[j] *Socialist Construction USSR, 1933–38*, p. 32.

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